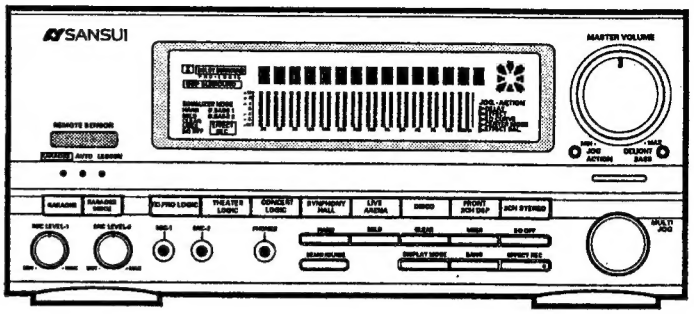
SERVICE MANUAL

SANSUI

A-X950

MINI COMPONENT SYSTEM
<INTEGRATED AV SURROUND AMPLIFIER>



Organization of System Component

System Name	Amplifier	Tuner	CD Player	Cassette Deck	Speaker
MC-X950/X950L	A-X950	T-X950/X950L	CD-X950	D-X950	S-X950

CAUTION
1. Parts identified by the ⚠ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

NOTICE

1. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
2. The symbols, EU, EG, IPT, SS and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.
   EU .....Manufactured for European market.
   EG .....Manufactured for F.R. Germany market.
   IPT .....Manufactured for Italy market.
   SS .....Manufactured for Saudi Arabian market.
   XX .....Standard Version.
   <EXPORT>
   NON MARK ....Common Parts.
3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
4. Abbreviations in this Parts List are as follows.

Abbreviations List

C.R.	: Carbon Resistor	E.B.L	: Low Leak Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor		
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metalized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor		
C.C.	: Ceramic Capacitor	M.M.C.	: Metalized Mylar Capacitor
C.T.	: Ceramic Capacitor, Temperature Compensation	A.C.	: Array Capacitor
		V.R.	: Variable Resistor
E.C.	: Elecrolytic Capacitor	S.V.R.	: Semi Variable Resistor
E.L.	: Low Leak Electrolytic Capacitor	SW.	: Switch
		Chip R.	: Chip Resistor
E.B.	: Bi-Polar Electrolytic Capacitor	Chip C.	: Chip Capacitor

Specifications

Power output (Front channel)
Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.7% total harmonic distortion. 40 watts per channel into 6 ohms.

Power output (Center channel)
Min. RMS, both channels driven, at 1 kHz, with no more than 1% total harmonic distortion. 12 watts per channel into 6 ohms.

Power output (Rear channel)
Min. RMS, both channels driven, at 1 kHz, with no more than 1% total harmonic distortion. 12 watts per channel into 6 ohms.

Load impedance.....6~16 ohms

Frequency response (at 1 watt)
BS, LD, VCR.....10 to 50,000 Hz, +1 dB, –3 dB
BASS PREOUT.....10 to 200 Hz, +1 dB, –3 dB

Signal to noise ratio (short-circuit, A-network)
BS, LD, VCR.....90 dB

TONE CONTROL
LOW.....± 12 dB (250Hz)
MID.....± 12 dB (1 kHz)
HIGH.....± 12 dB (8 kHz)

DELIGHT BASS
DELIGHT BASS 1.....+12 dB (40 Hz)
DELIGHT BASS 2.....+12 dB (80 Hz)
(MASTER VOLUME –30 dB)

-to be continued-

Surround Section
Frequency response (DOLBY PRO LOGIC: WIDE)
FRONT, CENTER .....50 to 15,000 Hz +0dB, –3dB
REAR .....50 to 6,000 Hz +0dB, –3dB
DIGITAL DELAY adjustment range
DOLBY PRO LOGIC .....15 to 30 ms
THEATER LOGIC, CONCERT LOGIC .....3 to 51 ms
SYMPHONY HALL, LIVE ARENA, DISCO .....5 to 100 ms

Dimensions.....270 mm (10-11/16") W
115 mm (4-9/16") H
340 mm (13-7/16") D
Weight.....6.8 kg (15.0 lbs) net

[Others]

Power requirements .....AC 120 V/220 V/240 (50/60 Hz)
Power consumption.....241 watts

* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,887.
"DOLBY" and the double-D symbol (DD) are trademarks of Dolby Laboratories Licensing Corporation.

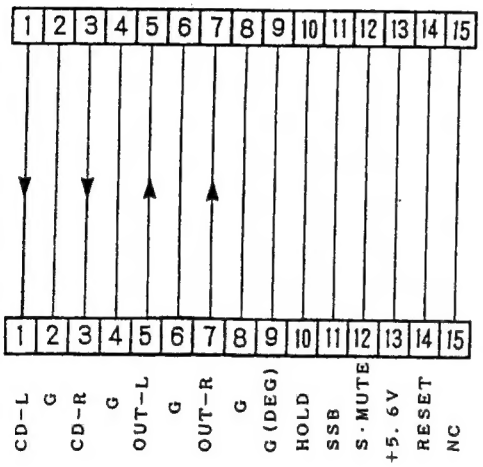
* **Design and specifications subject to changes without notice for improvements.**

1. PIN LOCATION OF SYSTEM CONTROL CABLE

(Pin No. 1 is connected to the cable with a white line.)

System Control 1

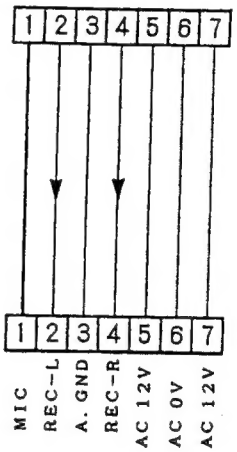
A-X950 (Amplifier)



T-X950 (Tuner)

System Control 3

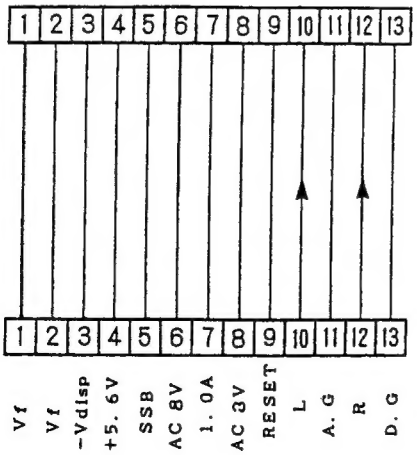
A-X950 (Amplifier)



D-X950 (Cassette Deck)

System Control 2

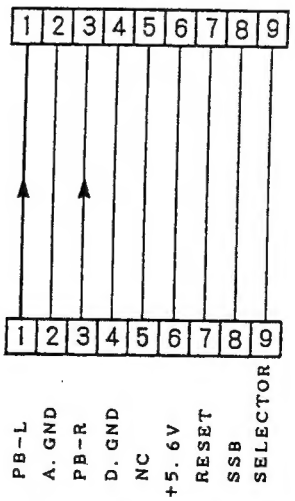
A-X950 (Amplifier)



CD-X950 (CD Player)

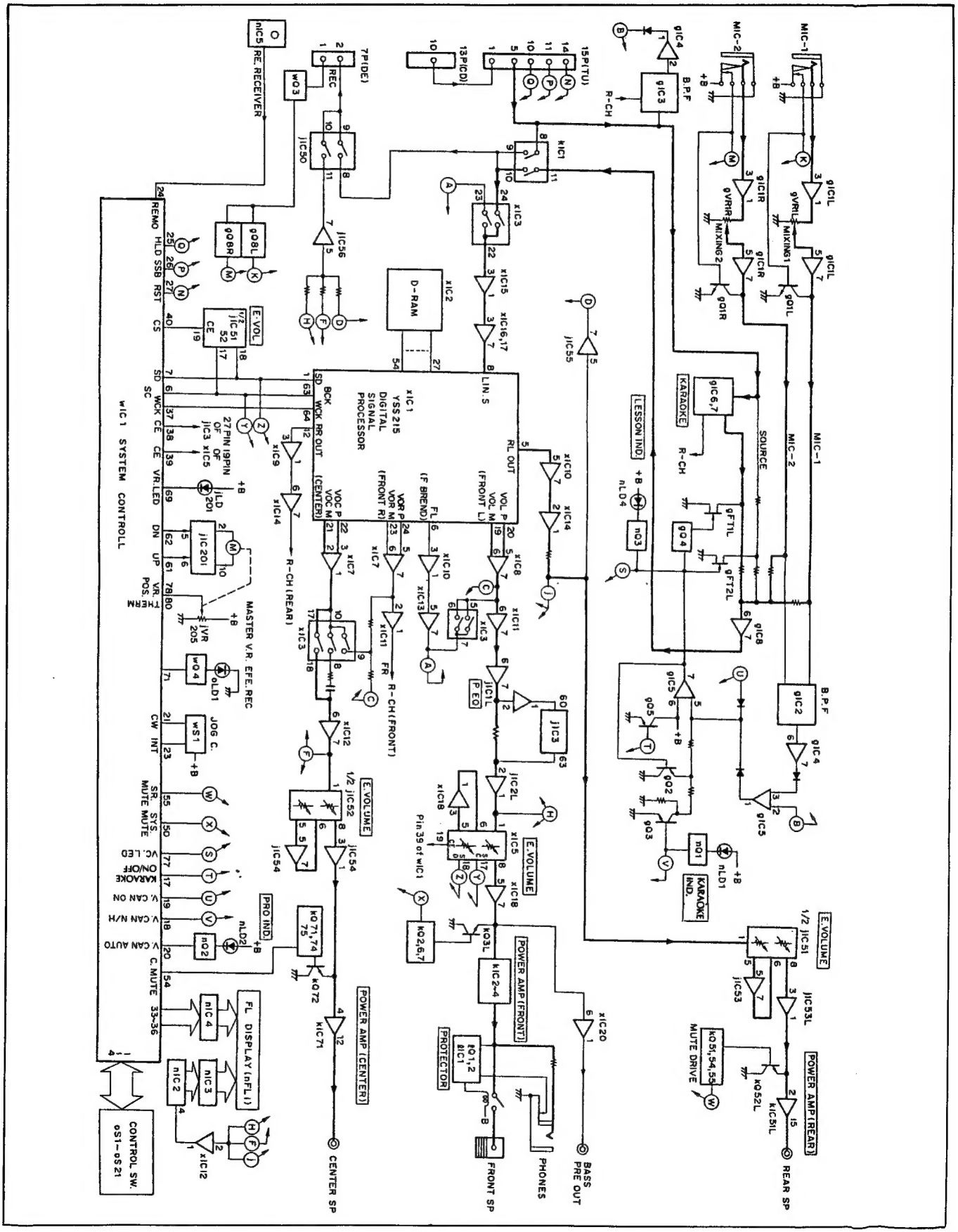
System Control 4

T-X950 (Tuner)



D-X950 (Cassette Deck)

2. BLOCK DIAGRAM



3. PARTS LIST OF BOARD

3-1. F-6805 Main Board

<Stock No. 01321204 = XX, SS, EU, IPT/01321208 = EG>

Parts No.	Stock No.	Description
•Transistor		
kQ1	46719900	DTC124ES
kQ2	46719800	DTA124ES
kQ3	46604301	2SC3327
kQ4	46367201	2SA1048
kQ5	46367201	2SA1048
kQ6	46719900	DTC124ES
kQ7	46719900	DTC124ES
kQ8	46719800	DTA124ES
kQ9	46719900	DTC124ES
kQ51	46719800	DTA124ES
kQ52	46604301	2SC3327
kQ54	46719900	DTC124ES
kQ55	46719900	DTC124ES
kQ71	46719800	DTA124ES
kQ72	46604301	2SC3327
kQ74	46719900	DTC124ES
kQ75	46719900	DTC124ES
•IC		
kIC1	48056800	LC4966
kIC2	49263900	NJM2068D
kIC3	03607700	NJM4558D
⚠ kIC4	49722700	STK4164-2
•Diode		
kD1	46464100	1SS133
⚠ kR16	49752500	100Ω 1/5W N.I.R.
⚠ kR18	49752500	100Ω 1/5W N.I.R.
kR101	49757100	10Ω 1/2W N.I.R. (EG)
kC4	48663200	330pF 50V C.C.
kC5	48660200	47pF 50V C.C.
kC9	48663200	330pF 50V C.C.
kC10	48660200	47pF 50V C.C.
kC16	48662600	100pF 50V C.C.
kC17	48665400	2200pF 50V C.C.
kC102	48662600	100pF 50V C.C. (EG)
•Transistor		
lQ1	46367201	2SA1048
lQ2	46719900	DTC124ES
lQ51	46719800	DTA124ES
•Diode		
lD1	46464100	1SS133
lD2	46464100	1SS133
lD3	46464100	1SS133
lD52	46464100	1SS133
lD71	46464100	1SS133
⚠ lRL1	49587400	Relay
⚠ or	49730300	Relay
⚠ lR8	46250400	820Ω 1W N.I.R.
•Transistor		
⚠ mQ1	46614001	2SA1283
•IC		
⚠ mIC1	49440800	NJM78M12FA
⚠ mIC2	49435600	NJM79M12FA
⚠ mIC3	49440800	NJM78M12FA
⚠ mIC4	49440500	NJM78M06FA

<F-6805>

Parts No.	Stock No.	Description
•Diode		
⚠ mD1	49634100	DBF60E
or	49383700	RBV-602
⚠ mD2	49634100	DBF60E
or	49383700	RBV-602
⚠ mD3	46273600	DBB10B
•Zener Diode		
mDZ1	49516400	MTZJ27B
mDZ2	49676600	MTZJ5.6C
⚠ mR1	46623500	22Ω 2W N.I.R.
⚠ mR5	49751300	10Ω 1/5W N.I.R.
mC1	08680400	0.01µF 500V C.C.
mC3	08680400	0.01µF 500V C.C.
mC4	49114600	6800µF 50V E.C.
mC5	49114600	6800µF 50V E.C.
mC8	49614600	6800µF 25V E.C.
mC9	49723400	2200µF 25V E.C.
mC10	49632400	1000µF 25V E.C.
oZ1	46549200	4P Speaker Terminal
•Transistor		
wQ2	46367301	2SC2458
wQ3	46367301	2SC2458
wQ4	48217800	DTC114ES
wQ5	46719900	DTC124ES
wQ6	46719900	DTC124ES
•IC		
wIC1	49723900	M38173M6-131FP
wXO1	49777100	Quartz Element KBR4.19MKS
•Diode		
wD1~8	46464100	1SS133
wC1	48666200	0.01µF 16V C.C.
wC2	48666200	0.01µF 16V C.C.
wC3	48785900	3.3µF 5.5V E.C.
wC7	48659800	33pF 50V C.C.
wC8	48659800	33pF 50V C.C.
wC9	49416900	0.047µF 50V C.C.
wC10	48662600	100pF 50V C.C.
•Transistor		
xQ8	46604301	2SC3327

3-2. F-6806 Fuse Board

Parts No.	Stock No.	Description
kR131	49757100	10Ω 1/2W N.I.R. (EG)
kR132	49757100	10Ω 1/2W N.I.R. (EG)
kR151	49757100	10Ω 1/2W N.I.R. (EG)
kR152	49757100	10Ω 1/2W N.I.R. (EG)
kC133	48662600	100pF 50V C.C. (EG)
oZ3	49622900	2P Terminal, REAR
oZ4	48987400	2P Terminal, CENTER
⚠ pF1	49593600	Fuse 2A (XX,SS)
⚠ pF2	49593600	Fuse 2A (XX,SS)

3-3. F-6807 Power Transformer Terminal Board A

Parts No.	Stock No.	Description
mR101	49749700	0.47Ω 1/5W N.I.R. (EU, IPT, EG)
mR102	49749700	0.47Ω 1/5W N.I.R. (EU, IPT, EG)

3-4. F-6808 Power Transformer Terminal Board B

Parts No.	Stock No.	Description
mR103	49749700	0.47Ω 1/5W N.I.R. (EU, IPT, EG)
mR104	49749700	0.47Ω 1/5W N.I.R. (EU, IPT, EG)

3-5. F-6811 Jog Control Board

Parts No.	Stock No.	Description
wS1	49738800	Rotary Encoder S.W., MULTI JOG

3-6. F-6812 Surround Board

<Stock No. 01321704>

Parts No.	Stock No.	Description
•IC		
jIC201	48982600	LB1641
•Zener Diode		
jDZ201	48551700	MTZ4.7A
or	49675800	MTZJ4.7A
jVR201	49733300	150kΩ(B) V.R., MASTER VOLUME
oZ2	49631800	1P Terminal, BASS PRI OUT
•Transistor		
xQ7	46604301	2SC3327
•IC		
xIC1	49725600	YSS215
xIC2	49732700	TC51832F-10
or	49732800	LH5P832N-12
or	49732900	HM65256BFP-10T
xIC3	49471900	TC9162N
xIC5	49724200	LC7536
xIC6	49772500	NJM78M56FA
xIC7	48730400	M5238L
or	49395500	NJM2082L
xIC8	48730400	M5238L
or	49395500	NJM2082L
xIC9	48730400	M5238L
or	49395500	NJM2082L
xIC10	48730400	M5238L
or	49395500	NJM2082L
xIC11	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
or	49395000	NJM2068L
xIC12	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
or	49395000	NJM2068L
xIC13	49439500	NJM4558L
or	49541200	M5218AL

<F-6812>

Parts No.	Stock No.	Description
or	49553100	RC4558L
xIC14	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
xIC15	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
xIC16	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
or	49395000	NJM2068L
xIC17	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
or	49395000	NJM2068L
xIC18	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
xIC20	49439500	NJM4558L
or	49541200	M5218AL
or	49553100	RC4558L
xXO1	49725400	Quartz Element
•Diode		
xD1~6	46464100	1SS133
•Zener Diode		
xDZ1	49676800	MTZJ6.2B
xC1	48748400	0.1µF 50V C.C.
xC2	48748400	0.1µF 50V C.C.
xC6	48659800	33pF 50V C.C.
xC9	48748400	0.1µF 50V C.C.
xC15	49417000	0.1µF 50V C.C.
xC27	49508100	47µF 16V Ta.C.
xC32	48663000	220pF 50V C.C.
xC37	48102500	10µF 25V E.B.
xC62	48662800	150pF 50V C.C.
xC63	48662600	100pF 50V C.C.
xC64	48102500	10µF 25V E.B.
xC80	48102500	10µF 25V E.B.
xC82	48662600	100pF 50V C.C.
xC85	48660200	47pF 50V C.C.
xC101	48659800	33pF 50V C.C.
xC103	48663300	390pF 50V C.C.
xC111	48659800	33pF 50V C.C.
xC114	48663500	560pF 50V C.C.
xC121	48659800	33pF 50V C.C.
xC122	48659200	18pF 50V C.C.
xC123	48659200	18pF 50V C.C.
xL1	48289800	Inductor 22µH
xL2	48289400	Inductor 10µH

3-7. F-6813 Volume Indicator Board

Parts No.	Stock No.	Description
•LED		
jLD201	48841100	SEL3210S

to be continued

3-8. F-6814 Tone Equalizier Board

<Stock No. 01321904>

Parts No.		Stock No.	Description
•IC			
jIC1		49439500	NJM4558L
	or	49541200	M5218AL
jIC2		49439500	NJM4558L
	or	49541200	M5218AL
jIC3		49724300	LV3100
jC2		48660200	47pF 50V C.C.
jC4		48660200	47pF 50V C.C.
jC19		48659800	33pF 50V C.C.
jC20		48659800	33pF 50V C.C.
jC21		48659800	33pF 50V C.C.
jL1		48289400	Inductor 10µH

3-9. F-6815 Electrical Volume Board

<Stock No. 01322004>

Parts No.		Stock No.	Description
•Transistor			
jQ50		48217800	DTC114ES
	or	49388100	RN1202
jQ51		48229600	DTA114ES
	or	49390300	RN2202
jQ52		48217800	DTC114ES
	or	49388100	RN1202
•IC			
jIC50		48056800	LC4966
jIC51		49724200	LC7536
jIC52		49724200	LC7536
jIC53		49439500	NJM4558L
	or	49541200	M5218AL
	or	49553100	RC4558L
jIC54		49439500	NJM4558L
	or	49541200	M5218AL
	or	49553100	RC4558L
jIC55		49439500	NJM4558L
	or	49541200	M5218AL
	or	49553100	RC4558L
jIC56		49439500	NJM4558L
	or	49541200	M5218AL
	or	49553100	RC4558L
•Zener Diode			
jDZ50		49676800	MTZJ6.2B
jC57		48659800	33pF 50V C.C.
jC58		48659200	18pF 50V C.C.
jC59		48659200	18pF 50V C.C.
jC68		48659800	33pF 50V C.C.
jC69		48659200	18pF 50V C.C.
jC70		48659200	18pF 50V C.C.

3-10. F-6816 Surround Power Amp Board

<Stock No. 01322104>

Parts No.	Stock No.	Description
•IC		
⚠ kIC51	49722500	TA8210AH
⚠ kIC71	49722600	TA8225H
kR55	49756300	2.2Ω 1/2W N.I.R.
kR56	49756300	2.2Ω 1/2W N.I.R.

<F-6816>

Parts No.	Stock No.	Description
kR78	49755900	1Ω 1/2W N.I.R.
kR79	49755900	1Ω 1/2W N.I.R.
kC52	48663800	1000pF 50V C.C.
kC54	49688000	220µF 16V E.C.
kC72	48663800	1000pF 50V C.C.
kC80	48663800	1000pF 50V C.C.

3-11. F-6817 Display Board

<Stock No. 01322204>

Parts No.		Stock No.	Description
nIC5		49356200	Remote Receive Unit GP1U521X
•Transistor			
nQ1		48217800	DTC114ES
	or	49388100	RN1202
nQ2		48217800	DTC114ES
	or	49388100	RN1202
nQ3		48229400	DTA114TS
	or	49390300	RN2202
nQ4		49628600	DT5A143E
nQ5		49628600	DT5A143E
nQ6		48217800	DTC114ES
	or	49388100	RN1202
•IC			
nIC1		03607700	NJM4558D
	or	49541300	M5218AP
nIC2		49724400	BA3830F
nIC3		49724000	MB88514BP-G-1519T
nIC4		49724100	M66004FP
nXO1		49738000	Quartz Element
	or	49745500	Quartz Element
•Diode			
nD1		46464100	1SS133
nD2		46464100	1SS133
nFL1		49720300	FL Display Tube CC1107C
•LED			
nLD1		49325900	SEL3210S
nLD2		49492500	SEL3910A
nLD3		48841400	SEL3213C
nLD4		49492500	SEL3910A
nR51		48774800	100kΩ x 8 A.R.
nC6		48665200	1500pF 50V C.C.
nC7		48665200	1500pF 50V C.C.
nC8		48665600	3300pF 50V C.C.
nC16		48660400	56pF 50V C.C.
nC20		48662800	150pF 50V C.C.
nC21		48662800	150pF 50V C.C.
nC100		49416900	0.047µF 50V C.C.
nC101		48663800	1000pF 50V C.C.
nC102		48662600	100pF 50V C.C.
nC103		48662600	100pF 50V C.C.
nC104		49417000	0.1µF 50V C.C.
nC105		49416900	0.047µF 50V C.C.

3-12. F-6818 Control Switch Board

Parts No.	Stock No.	Description
•LED		
oLD1	48841100	SEL3210S
oS1	49326300	Push SW., D.BASS
oS2	49326300	Push SW., JOG ACTION
oS3	49326300	Push SW., 2CH STEREO
oS4	49326300	Push SW., FRONT 2CH DSP
oS5	49326300	Push SW., DISCO
oS6	49326300	Push SW., LIVE ARENA
oS7	49326300	Push SW., SYMPHONY HALL
oS8	49326300	Push SW., CONCERT LOGIC
oS9	49326300	Push SW., THEATER LOGIC
oS10	49326300	Push SW., PRO LOGIC
oS11	49326300	Push SW., KARAOKE MODE
oS12	49326300	Push SW., EQ OFF
oS13	49326300	Push SW., USER
oS14	49326300	Push SW., CLEAR
oS15	49326300	Push SW., MILD
oS16	49326300	Push SW., HARD
oS17	49326300	Push SW., EFFECT REC
oS18	49326300	Push SW., BAND
oS19	49326300	Push SW., DISPLAY MODE
oS20	49326300	Push SW., DEMO/GUIDE
oS21	49326300	Push SW., KARAOKE

3-13. F-6820 Mic Amp Board

<Stock No. 01322404>

Parts No.	Stock No.	Description
•Transistor		
gQ1	46367101	2SC2603
or	48058801	2SC1740S
gQ6	46719800	DTA124ES
or	49390400	RN2203
•IC		
gIC1,2	49439500	NJM4558L
or	49541200	M5218AL
•Diode		
gD1	46464100	1SS133
gC1	48662800	150pF 50V C.C.
gC33	49417000	0.1µF 50V C.C.
gC34	49417000	0.1µF 50V C.C.
gVR1	49731300	20kΩ(A) V.R., MIC LEVEL-1 MIC LEVEL-2
⚠ kR23	46624700	220Ω 2W N.I.R.
oJ1	49600500	Jack, MIC-1
oJ2	49600500	Jack, MIC-2
oJ3	49600600	Jack, PHONES

3-14. F-6821 Karaoke Board

<Stock No. 01322504>

Parts No.	Stock No.	Description
•Transistor		
gQ2	46367001	2SA1115
or	48058601	2SA933S
gQ3	48217800	DTC114ES
or	49388100	RN1202
gQ4	48217800	DTC114ES

<F-6821>

Parts No.	Stock No.	Description
or	49388100	RN1202
gQ5	48217800	DTC114ES
or	49388100	RN1202
•FET		
gFT1,2	46643500	2SK163-K1
or	46643501	2SK163-K2
or	46643502	2SK163-L1
or	46643503	2SK163-L2
or	46643504	2SK163-M1
or	46643505	2SK163-M2
or	46643506	2SK163-N1
or	46643507	2SK163-N2
or	46643700	2SK246-Y
or	46643701	2SK246-GR
or	46643702	2SK246-BL
•IC		
gIC3~8	49439500	NJM4558L
or	49541200	M5218AL
•Diode		
gD2~5	46464100	1SS133
•Zener Diode		
gDZ1	49676500	MTZJ5.6B
gDZ2	49675800	MTZJ4.7A
or	49675900	MTZJ4.7B
or	49676000	MTZJ4.7C
gC27	48508400	10µF 16V Ta.C.

4. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

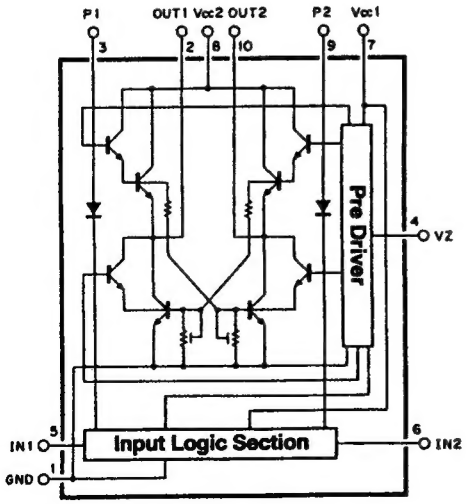
•M38173M6-FP <System Control>

Terminal Function

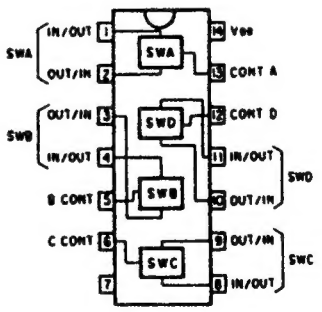
PIN No.	I/O	Function	Active
1	I	A/D SW-1	
2	I	A/D SW-2	
3	I	A/D SW-3	
4	I	A/D SW-4	
6	O	Serial Clock Output	
7	O	Serial Data Output	
10	O	Serial Clock Output for on Screen	
11	O	Serial Data Output for on Screen	
13	I	NTSC/PAL	
14	I	Parity Input for on Screen	
15	I	Short Detector	L
16	I	Tuner Mute	
17	O	Voice Cancel Output 1	
18	O	Voice Cancel Output 2	
19	O	Voice Cancel Output 3	
20	O	Voice Cancel Output 4	
21	I	JOG Direction Detector Input	
23	I	JOG Intercept Input	
24	I	Received Signal from Remote Controller	
25	I	Hold Input	L
26	I	Sansui Serial Bus Input	
27		RESET	
30		OSC Terminal 4.19 MHz	
31		OSC Terminal 4.19 MHz	
32		0 V (GND)	
33	O	RESET Output	L
34	O	FL Micro Computor Chip Select	L
35	O	M6604 Chip Select	L
36	O	M50554 CS	L

PIN No.	I/O	Function	Active
37	O	YSS215 Working Clock	L
38	O	LV3100 Chip Enable	
39	O	LC7536#0 Chip Enable	
40	O	LC7536#1 Chip Enable	
41	O	TC9162 Serial Clock	
42	O	TC9162 Serial Data	
43	O	TC9162#0 Strobe	
44	O		
45	O	FAN A	
46	O	FAN B	
47	O		
49	O	Power Out	L
50	O	Signal Mute	L
51	O	Sansui Serial Bus	
53	O	Flat Output	H
54	O	Center Mute	L
55	O	Rear Mute	L
61	O	LB1641 Motor Driver (UP Mode)	H
62	O	LB1641 Motor Driver (DOWN Mode)	H
69	O	Mute LED	H
70	O	Stand by LED	H
71	O	Efect REC LED	H
73		5 V	
74		0 V	
75		0 V (GND)	
76		5 V	
78	I	Defector of Volume Position	
79	I	Check Input of Back up Voltage	
80	I	Thermal Detection	

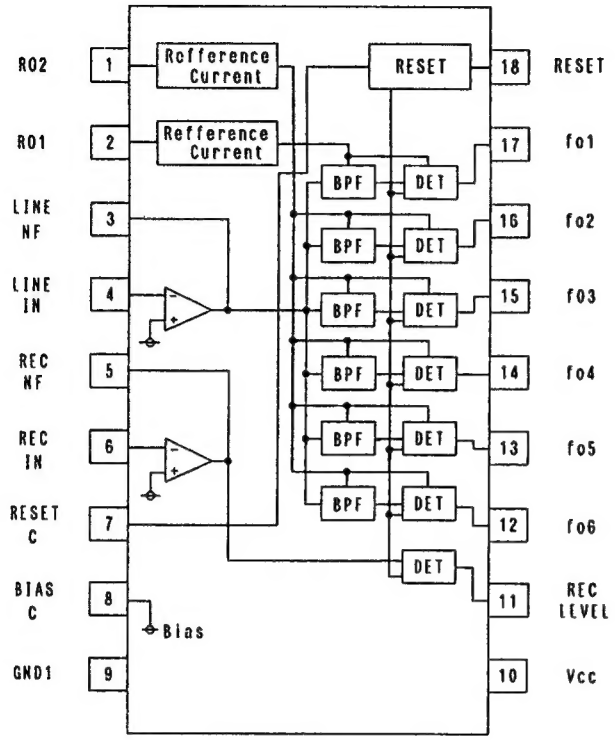
•LB1641 <Driving Motor>



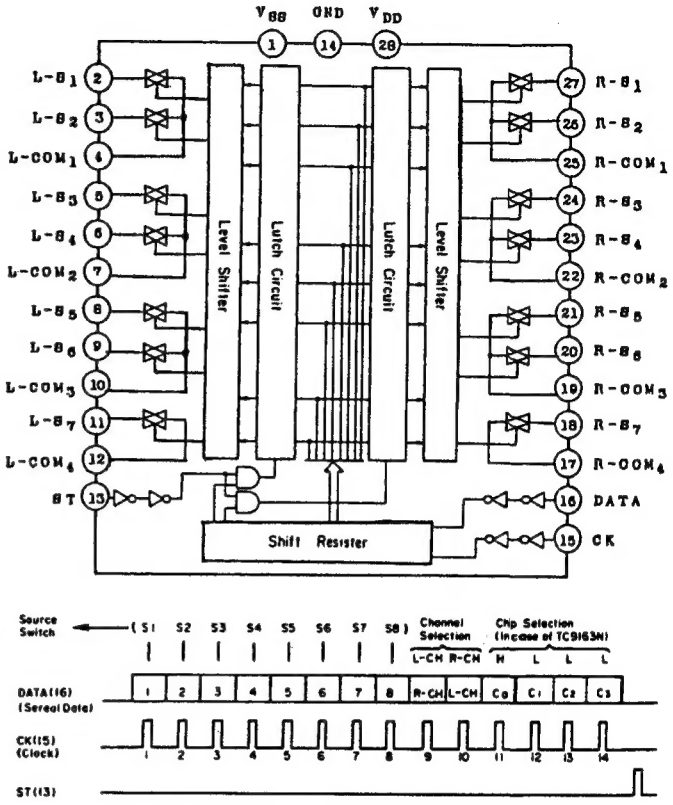
•LC4966 <Analog Switch>



•BA3830F <B·P·F>



•TC9162N <Analog Switch>

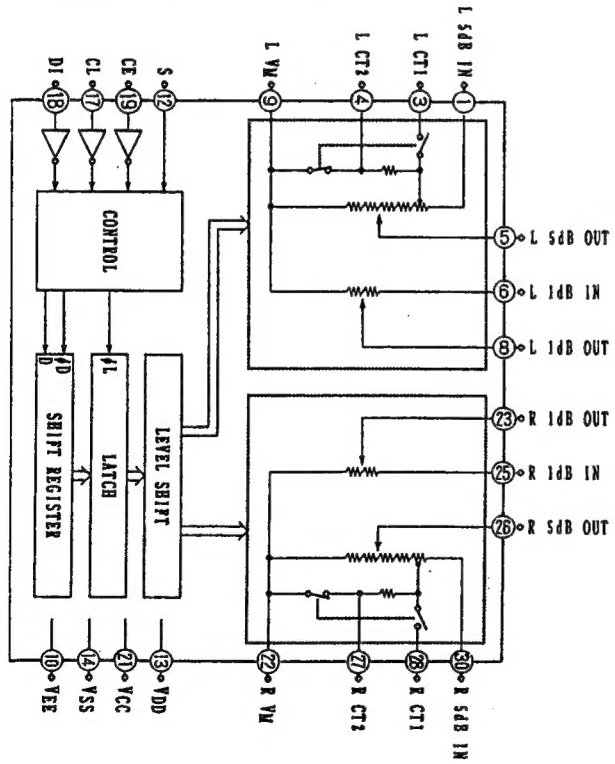


◆ **ST Terminal Function**

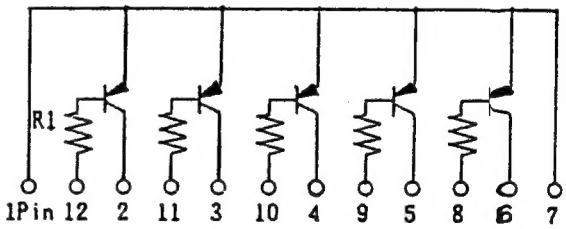
* When data bit 1 is High level, source switch 1 is ON.
In the same manner, when data bit 2 (3~8) is High level, source switch 2 (3~8) is ON.

* Shift resister recieves 14 bit sereal datas, and their datas are sent to the lutch circuit by the ST signal.

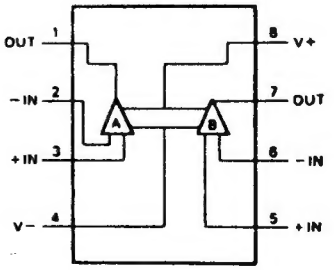
•LC7536 <Electrical Volume>



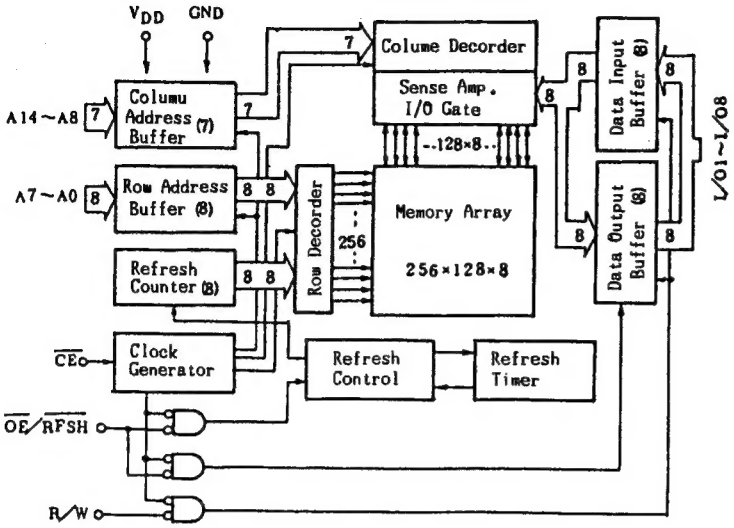
•DT5A143T <Digital Transistor Array>



•NJM4558D <OP Amp.>



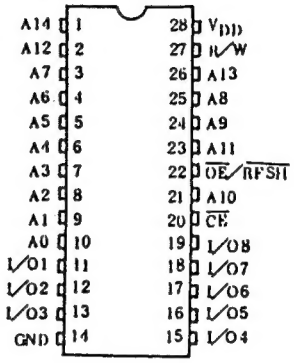
•TC51832F-10/LH5P832N-12/HM65256BFP-10T <S-RAM>



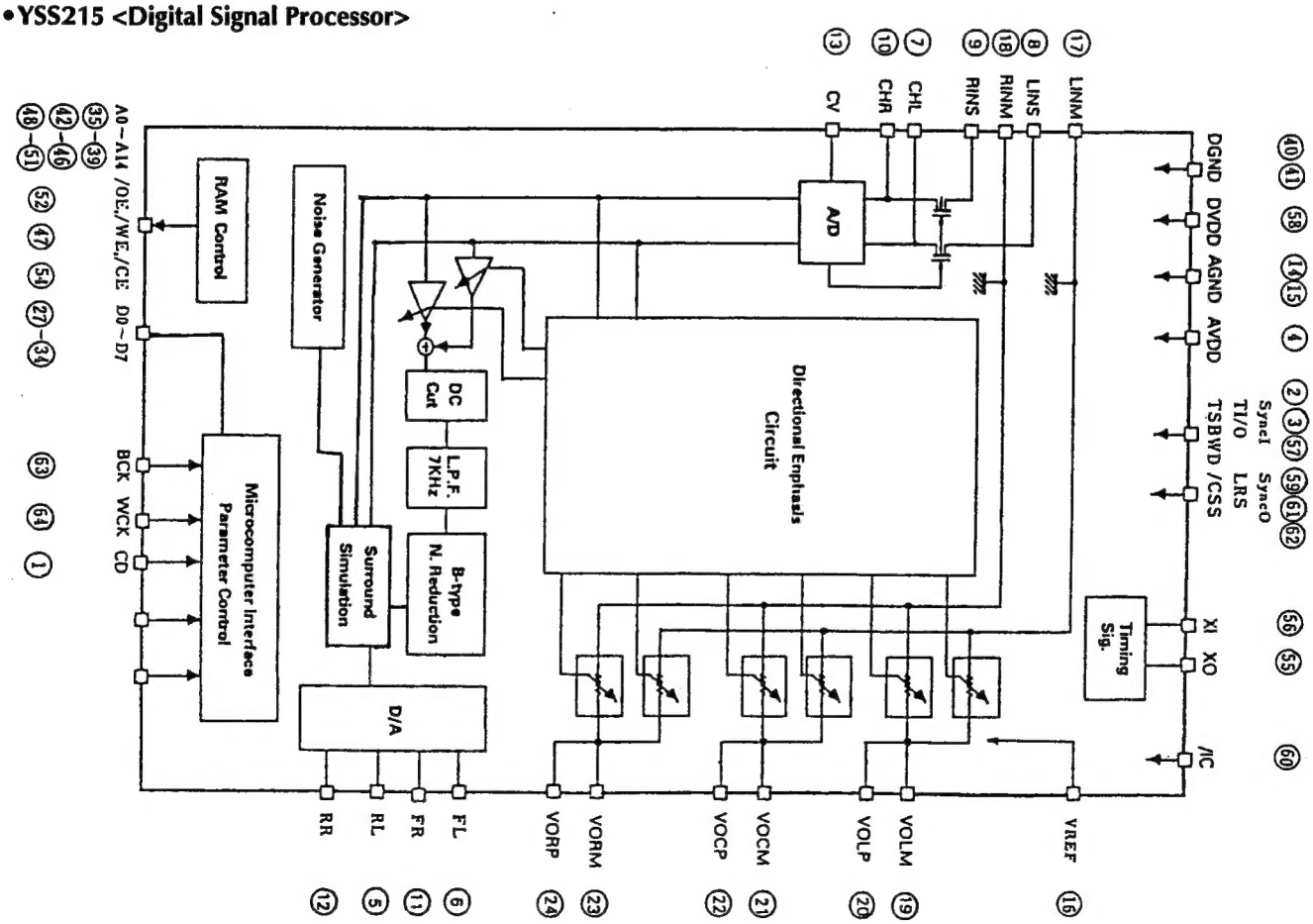
<S-RAM>

A0~A14	Address input
R/W	read•write input
$\overline{OE}$/$\overline{RFSH}$	Output enable input Refresh input
$\overline{CE}$	Chip enable input
I/O1~I/O8	Data input/output
V_{DD}	Power Supply Terminal
GND	Ground

<S-RAM>



•YSS215 <Digital Signal Processor>



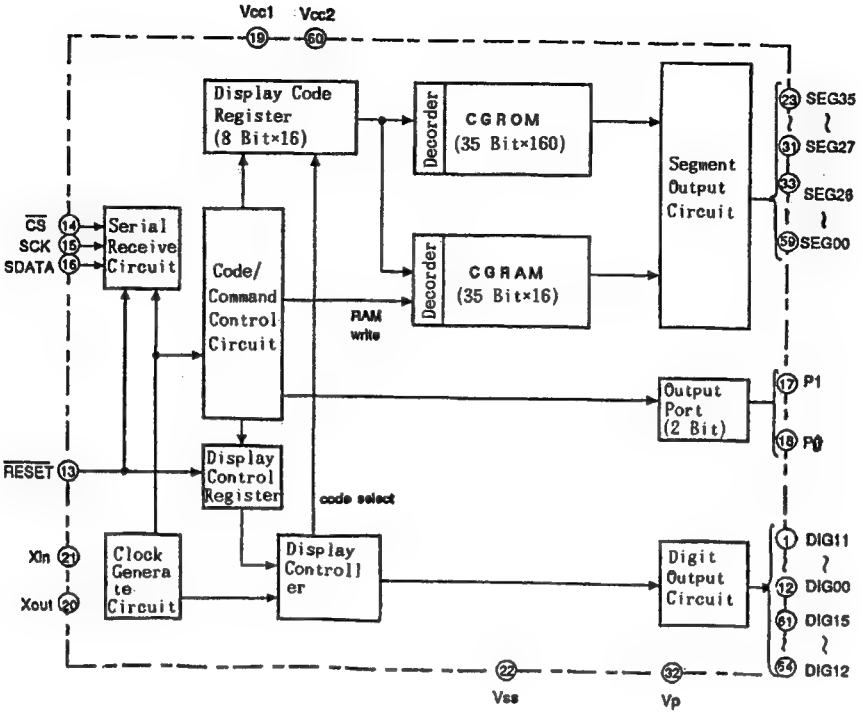
•YSS215 <Terminal Function>

Pin No.	I/O	PinName	Function
1	It	CD	Serial data for parameter data input
2	Ic	TSBWD	Test terminal for LSI. Normally connect it to the DVDD.
3	Ic	TI/O	Test terminal for LSI. Normally connect it to the DVDD.
4	A–	AVDD	+5V power supply (D/A, A/D units)
5	AO	RL	RL channel D/A output
6	AO	FL	FL channel D/A output
7	A–	CHL	LINS input Sample/hold External terminal to connect capacitor
8	AI	LINS	L channel A/D input
9	AI	RINS	R channel A/D input
10	A–	CHR	RINS input Sample/hold External terminal to connect capacitor
11	AO	FR	FR channel D/A output
12	AO	RR	RR channel D/A output
13	AO	CV	A/D, center voltage of multiplying DAC
14	A–	AGND	Ground (D/A, A/D units)
15	A–	AGND	Ground (multiplying DAC unit)
16	AI	VREF	Multiplying DAC reference voltage input
17	AI	LINM	L channel Multiplying DAC input
18	AI	RINM	R channel Multiplying DAC input
19	AO	VOLM	L channel Connect it to the – terminal of the operating amplifier.
20	AO	VOLP	L channel Connect it to the + terminal of the operating amplifier.
21	AO	VOCM	C channel Connect it to the – terminal of the operating maplifier.
22	AO	VOCP	C channel Connect it to the + terminal of the operating amplifier.
23	AO	VORM	R channel Connect it to the – terminal of the operating amplifier.
24	AO	VORP	R channel Connect it to the + terminal of the operating amplifier.
25	A–	AVDD	+5V power supply (multiplying DAC unit)
26	–	DVDD	+5V power supply (digital unit)
27~34	I/Ot	D7~D0	External delay RAM Data terminal
35~39 42~46 48~51	O	A14~A0	External RAM address terminal
40	–	DGND	Ground (digital unit)
41	–	DGND	Ground (digital unit)
47	O	/WE	External delay RAM Write enable terminal
52	O	/OE	External delay RAM Output enable terminal
54	O	/CE	External delay RAM Chip enable terminal
55	O	XO	Crystal oscillator connection terminal
56	I	XI	Crystal oscillator connection terminal (11.2896MHz)
57	It	Sync I	Test terminal for system synchronism. Normally connect it to the DVDD.
58	–	DVDD	+5V power supply (digital unit)
59	O	SyncO	Test terminal for system synchronism. Normally No Connection is required.
60	Ics	/IC	Initial clear terminal (Reset it by power ON.)
61	O	LRS	External Auto input balance terminal Normally No Connection is required.
62	O	/CSS	External Auto input balance terminal Normally No Connection is required.
63	Its	BCK	Bit clock for parameter data input
64	Its	WCK	Word clock for parameter data input

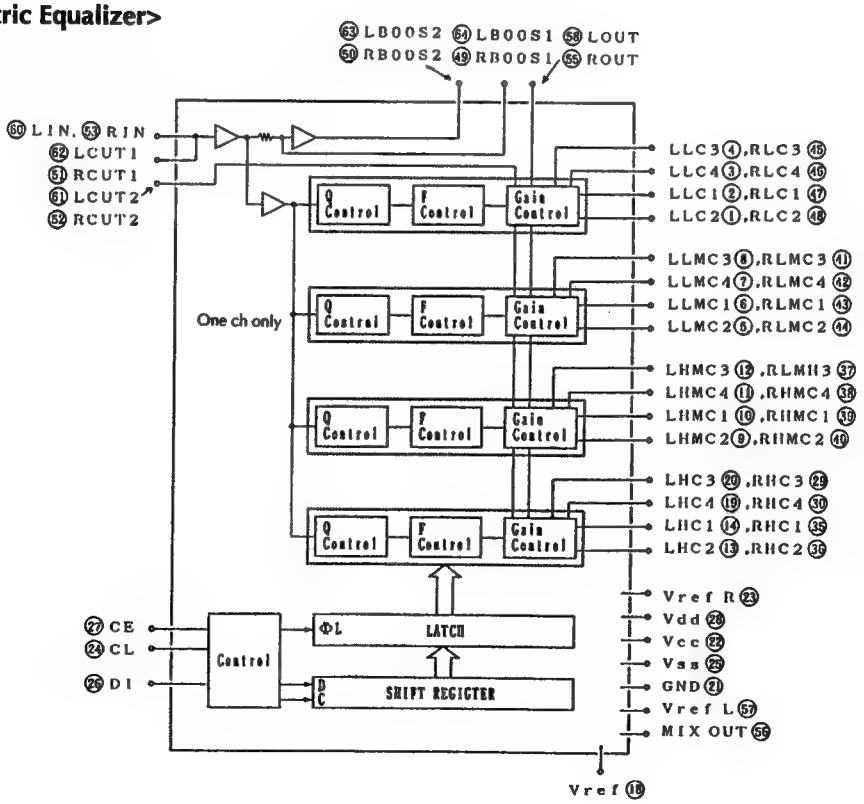
•MB885154 <FL Driver>

Pin No.	Pin Name	I/O	Function	Active
1~16	E0~E15	O	Segment Output for FL	H
17~24	E16~E23	O	Digit Output for FL	H
25,26	EX,X		Oscillator Connection Terminal (6MHz)	
27	RESET		Microcomputer Reset	L
29	SI	I	Serial Data input	
30	SC	I	Clock input for Serial	
31	IRQ		Chip Select	L
32	VSS		Ground	
33	R0	I	Chip Select	L
34	R1	I	Dimmer 1	
35	R2	I	Dimmer 2	
36	R3	I	Test Terminal	
43	AVSS		Ground	
44	AVR–		Ground (0V)	
45	AVR+		+5V	
46	AVCC		+5V	
47~54	AN7~AN0	I	input for Spectrum Analyze	
55~62	R8~R15	O	Digit Output for FL	L
63	NC			
64	VCC		+5V	

•M66004FP <FL Driver>

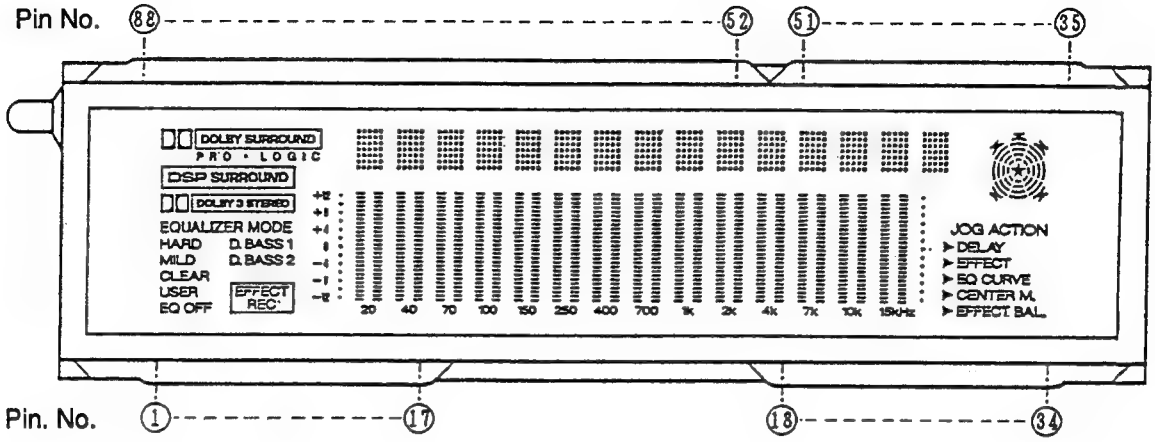


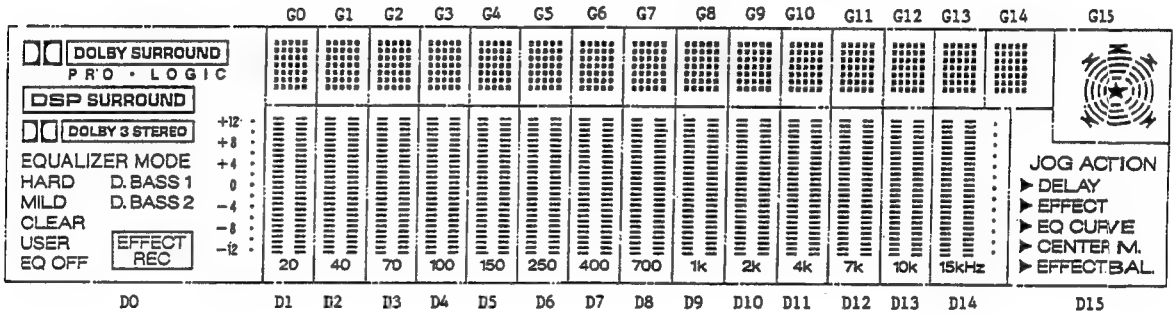
•LV3100M <Parametric Equalizer>

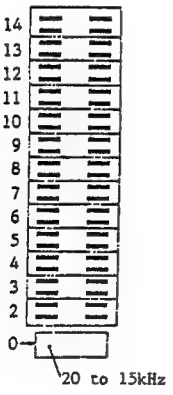


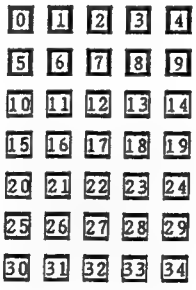
5. DISPLAY PATTERN AND PIN ASSIGNMENT OF CC1107C FL DISPLAY

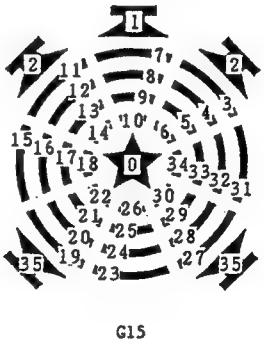
<Display Pattern & Pin Terminal Mark>











•FL Display Tube

<Segment Map>

Segment Map 1

	D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15
S0	+12, +8, +4, 0 −4, −8, −12	20	40	70	100	150	250	400	700	1k	2k	4k	7k	10k	15kHz	
S1	Dot (13ϕ)														Dot (13ϕ)	
S2	EQ OFF	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
S3	EFFECT REC	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
S4	USER	4	4	4	4	4	4	4	4	4	4	4	4	4	4	▶ (EFFECT BAL.)
S5	CLEAR	5	5	5	5	5	5	5	5	5	5	5	5	5	5	EFFECT BAL.
S6	MILD	6	6	6	6	6	6	6	6	6	6	6	6	6	6	▶ (CENTER M.)
S7	D.BASS 2	7	7	7	7	7	7	7	7	7	7	7	7	7	7	CENTER M.
S8	HARD	8	8	8	8	8	8	8	8	8	8	8	8	8	8	▶ (EQ CURVE)
S9	D.BASS 1	9	9	9	9	9	9	9	9	9	9	9	9	9	9	EQ CURVE
S10	EQUALIZER MODE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	▶ (EFFECT)
S11	□□ DOLBY 3 STEREO	11	11	11	11	11	11	11	11	11	11	11	11	11	11	EFFECT
S12	DSP SURROUND	12	12	12	12	12	12	12	12	12	12	12	12	12	12	▶ (DELAY)
S13	□□ DOLBY SURROUND PRO·LOGIC	13	13	13	13	13	13	13	13	13	13	13	13	13	13	DELAY
S14		14	14	14	14	14	14	14	14	14	14	14	14	14	14	JOG ACTION

Segment Map 2

	G1 to G14	G15		G1 to G14	G15
S0	0	0	S18	18	18
S1	1	1	S19	19	19
S2	2	2	S20	20	20
S3	3	3	S21	21	21
S4	4	4	S22	22	22
S5	5	5	S23	23	23
S6	6	6	S24	24	24
S7	7	7	S25	25	25
S8	8	8	S26	26	26
S9	9	9	S27	27	27
S10	10	10	S28	28	28
S11	11	11	S29	29	29
S12	12	12	S30	30	30
S13	13	13	S31	31	31
S14	14	14	S32	32	32
S15	15	15	S33	33	33
S16	16	16	S34	34	34
S17	17	17	S35		35

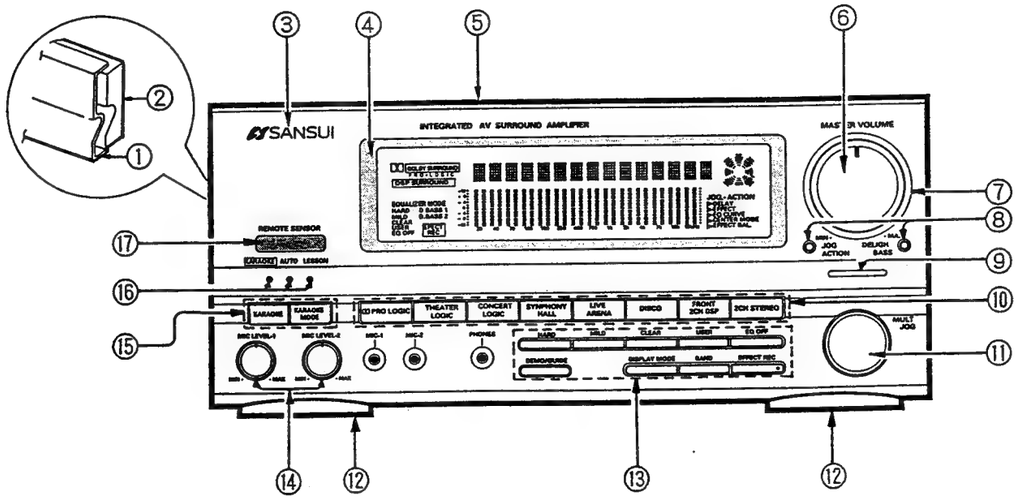
<Pin Assignment>

Pin No.	1	2	3	4	5	6	7	8	9	10
Assignment	IC	D0	D1	D2	D3	D4	D5	D6	D7	D8
	11	12	13	14	15	16	17	18	19	20
	D9	D10	D11	D12	D13	D14	D15	NC	P0	P1
	21	22	23	24	25	26	27	28	29	30
	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
	31	32	33	34	35	36	37	38	39	40
	P12	P13	P14	IC	F	G15	G14	G13	G12	G11
	41	42	43	44	45	46	47	48	49	50
	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1
	51	52	53	54	55	56	57	58	59	60
	G0	S0	S1	S2	S3	S4	S5	S6	S7	S8
	61	62	63	64	65	66	67	68	69	70
	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
	71	72	73	74	75	76	77	78	79	80
	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28
	81	82	83	84	85	86	87	88		
	S29	S30	S31	S32	S33	S34	S35	F		

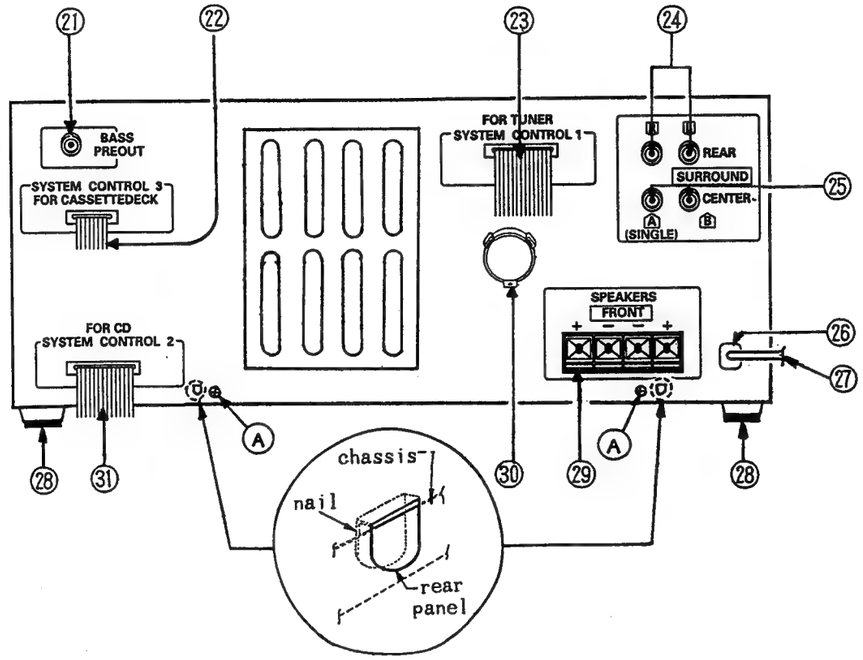
NC : No Connection
IC : Internal Connection
D , G : Grid
P , S : Segment

6. OTHER PARTS

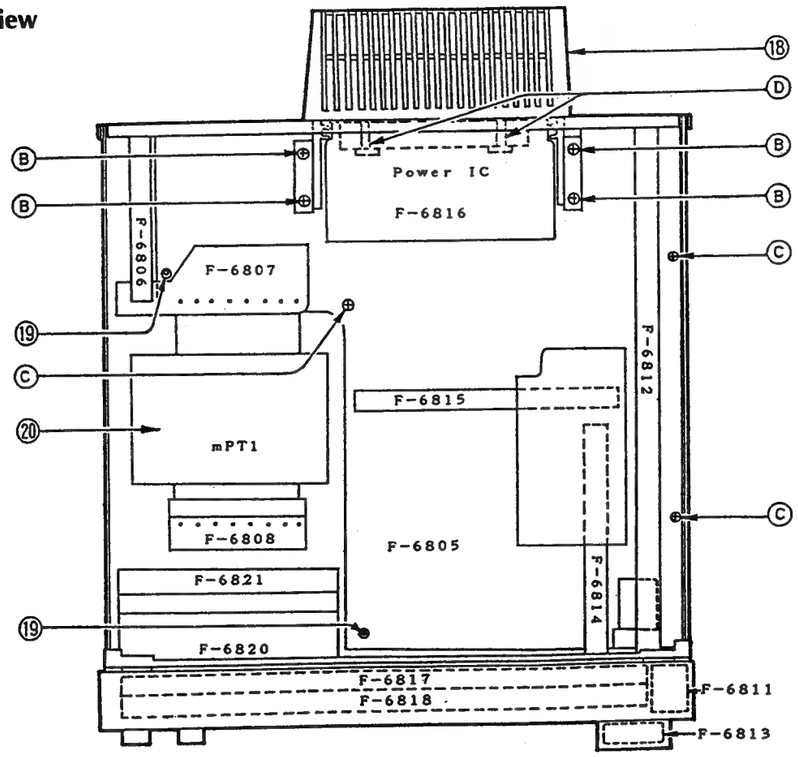
Front View



Rear View



Top View



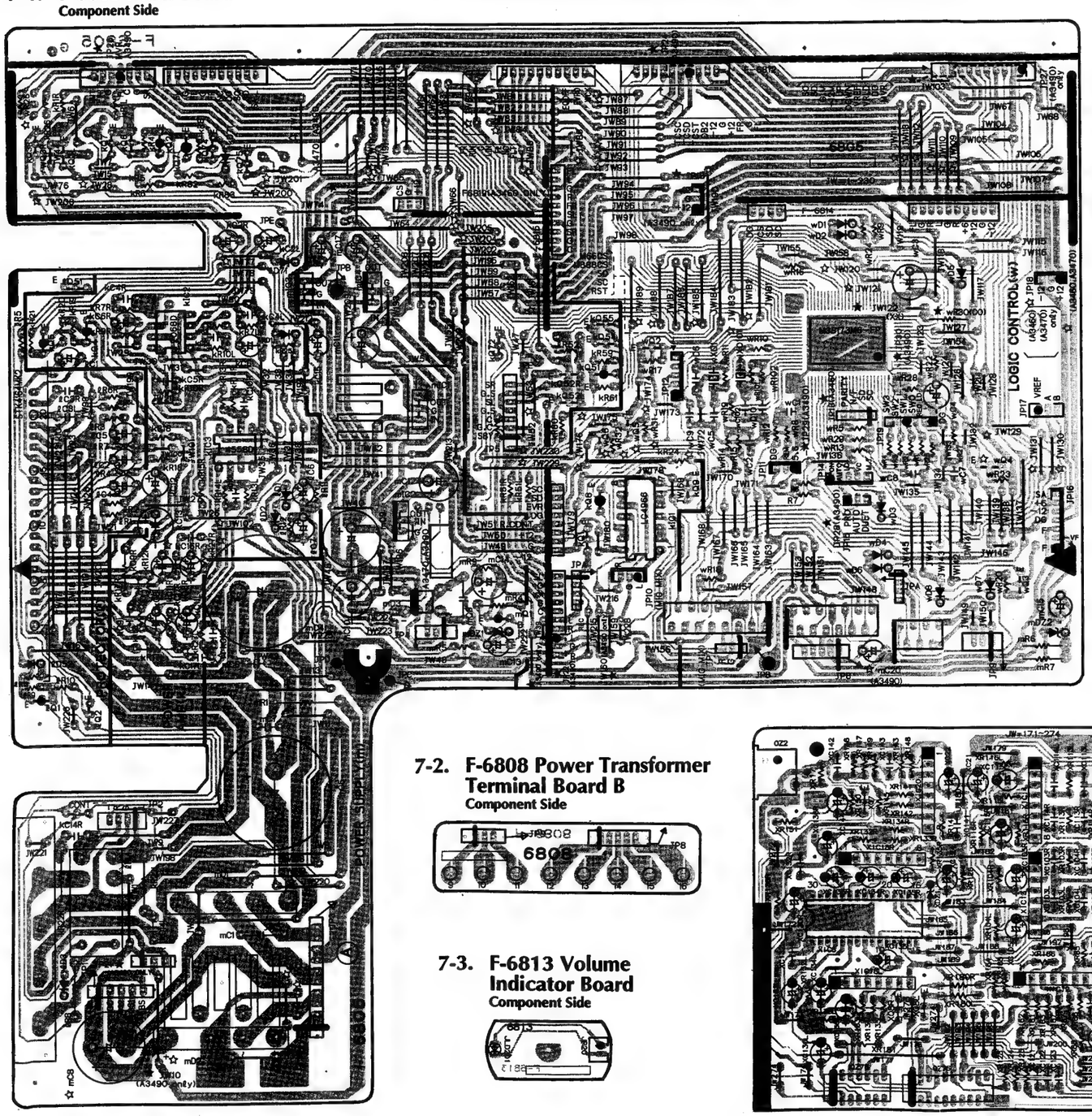
Parts List

Parts No.	Stock No.	Description
1	05127900	AL-Front Panel(Black)
	05157300	AL-Front Panel(Gold)
2	05085400	P-Front Panel(Black)
	05100600	P-Front Panel(Gold)
3	05095600	Logo type Badge
4	05098000	D3,Plate
5	05091000	Bonnet(Black)
	05100700	Bonnet(Gold)
6	05101900	Knob Assy,MASTER VOLME(Black)
	05102400	Knob Assy,MASTER VOLME(Gold)
7	05097900	MASTER VOLME Ring
8	05091400	Knob,JOG ACTION,DELIGHT BASS (Black)
	05097600	Knob,JOG ACTION,DELIGHT BASS (Gold)
9	05101500	Indicator
10	05087500	Knob,PRO LOGIC,THEATER LOGIC, CENTER LOGIC,etc.(Black)
	05097700	Knob,PRO LOGIC,THEATER LOGIC, CENTER LOGIC,etc.(Gold)
11	05100000	Knob,MULTI JOG(Black)
	05100100	Knob,MULTI JOG(Gold)
12	05149900	Foot Assy(Front)
13	05102600	Knob,HARD,MILD,CLEAR,etc.(Black)
	05102500	Knob,HARD,MILD,CLEAR,etc.(Gold)

Parts No.	Stock No.	Description
14	05097810	Knob,MIC LEVEL-1,MIC LEVEL-2 (Black)
	05098300	Knob,MIC LEVEL-1,MIC LEVEL-2 (Gold)
15	05153600	Knob,KARAOKE,KARAOKE MODE (Black)
	05157200	Knob,KARAOKE,KARAOKE MODE (Gold)
16	05101600	Indicator,KARAOKE,AUTO,LESSON
17	05091500	RS Filter
18	05101800	Heat Sink Cover
19	49571700	PC Support,LSR-12R
⚠ 20	15041309	Power Transformer<XX,SS>
⚠	15041305	Power Transformer<EU,IPT,EG>
21	49631800	1P Terminal,BASS PRE OUT
22	49738600	7P FG Connector Cable
23	49738410	15P FG Connector Cable
24	49622900	2P Terminal,REAR
25	48987400	2P Terminal,CENTER
26	49374300	Strain Relief
⚠ 27	48837700	Power Supply Cord<XX,SS>
⚠	49299300	Power Supply Cord<EU,IPT,EG>
28	27902510	Leg Sheet(Rear)
29	46549200	4P Terminal,SPEAKER(Front)
⚠ 30	48175200	Plug,Voltage Selector<XX,SS>
31	49738500	13P FG Connector Cable

7. PARTS LOCATION ON BOARD

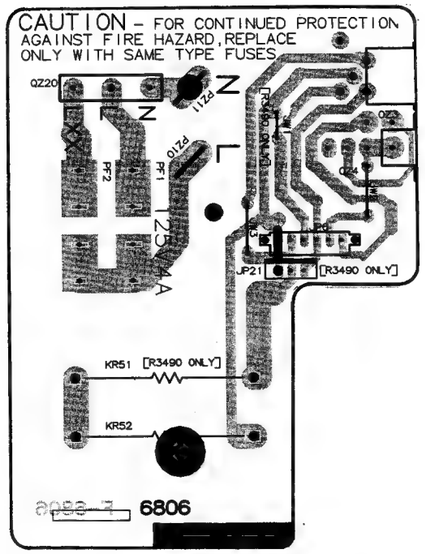
7-1. F-6805 Main Board
Component Side



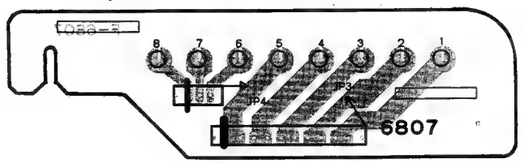
7-2. F-6808 Power Transformer Terminal Board B
Component Side

7-3. F-6813 Volume Indicator Board
Component Side

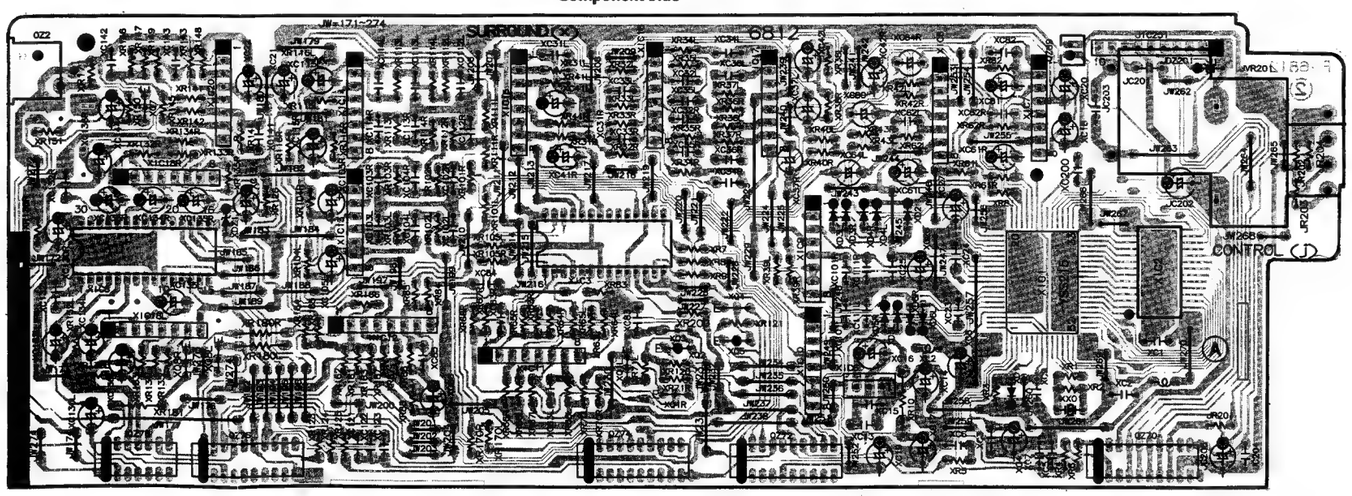
7-4. F-6806 Fuse Board
Component Side



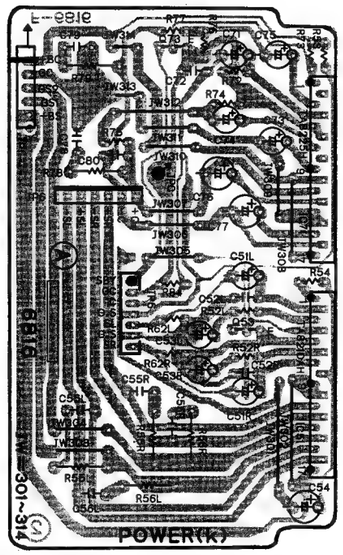
7-5. F-6807 Power Transformer Terminal Board A
Component Side



7-6. F-6812 Surround Board
Component Side

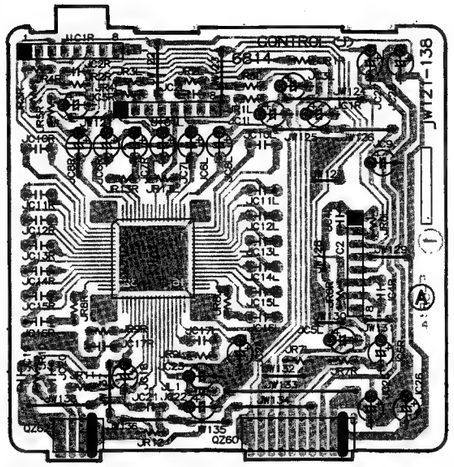


7-7. F-6816 Surround Power Amp Board
Component Side

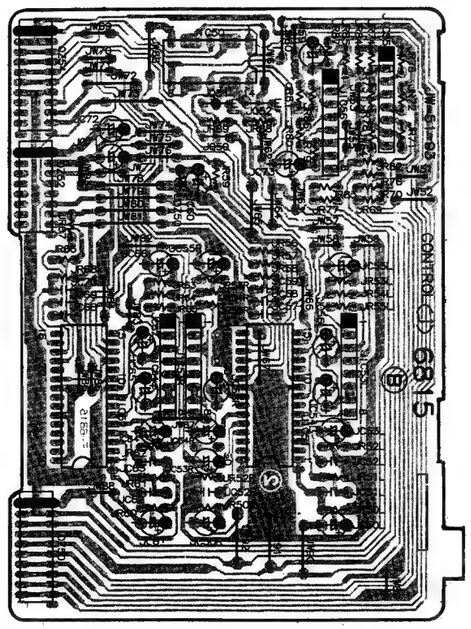


7-8. F-6811 Jog Control Board
Component Side

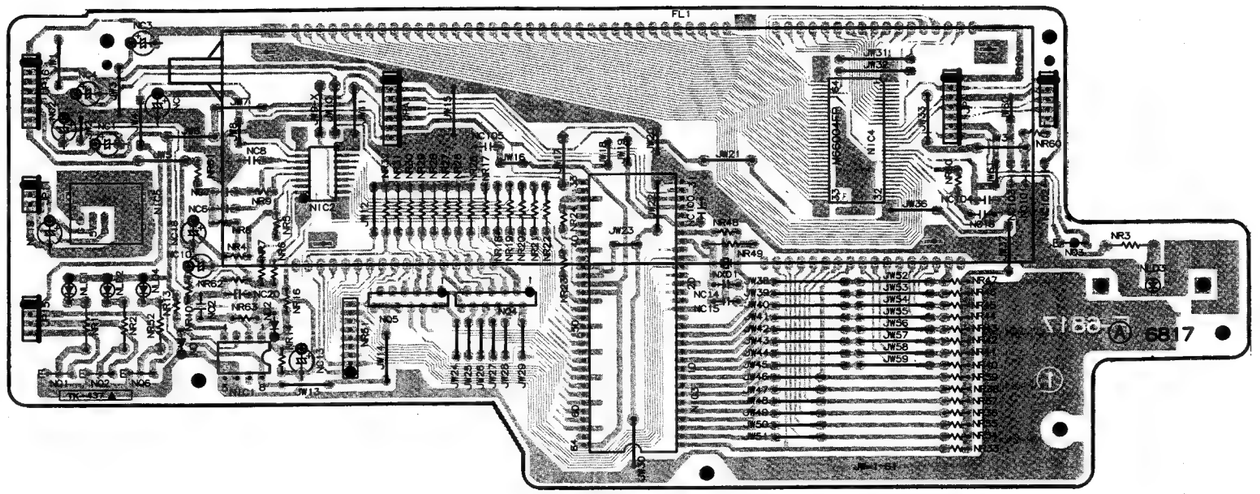
7-9. F-6814 Tone Equalizer Board
Component Side



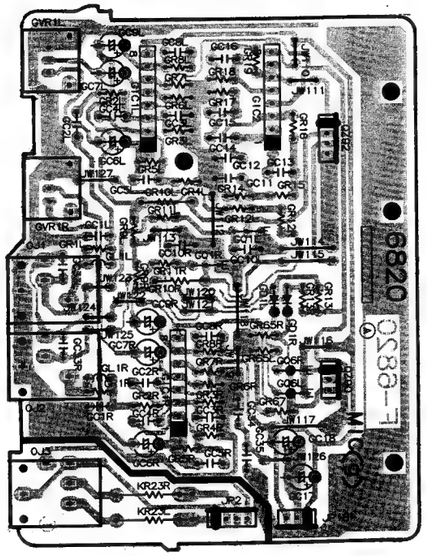
7-10. F-6815 Electrical Volume Board
Component Side



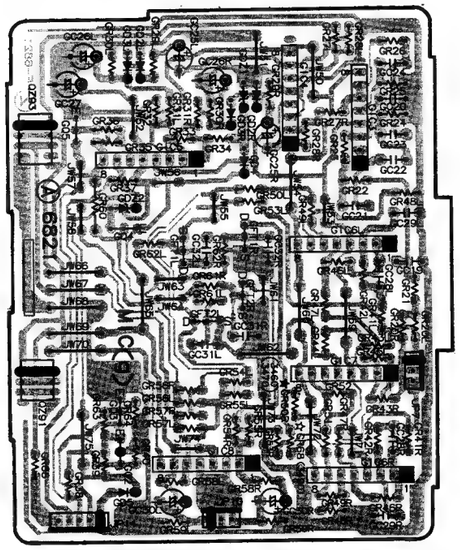
7-11. F-6817 Display Board
Component Side



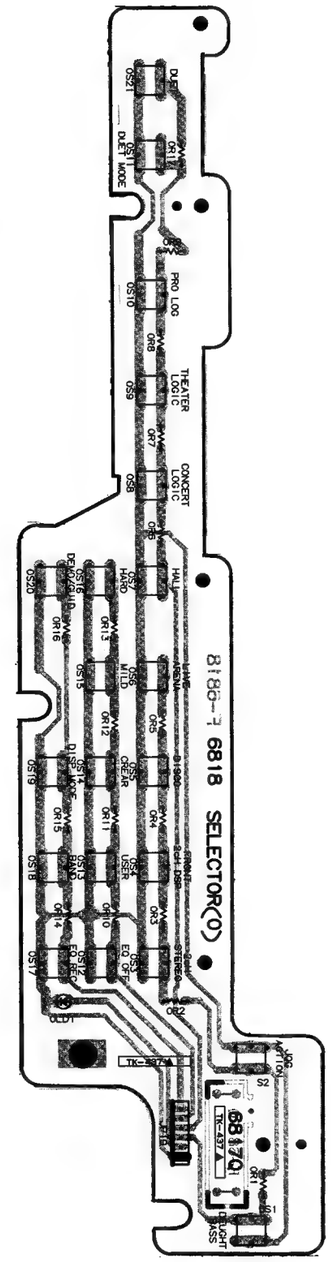
7-12. F-6820 Mic Amp Board
Component Side



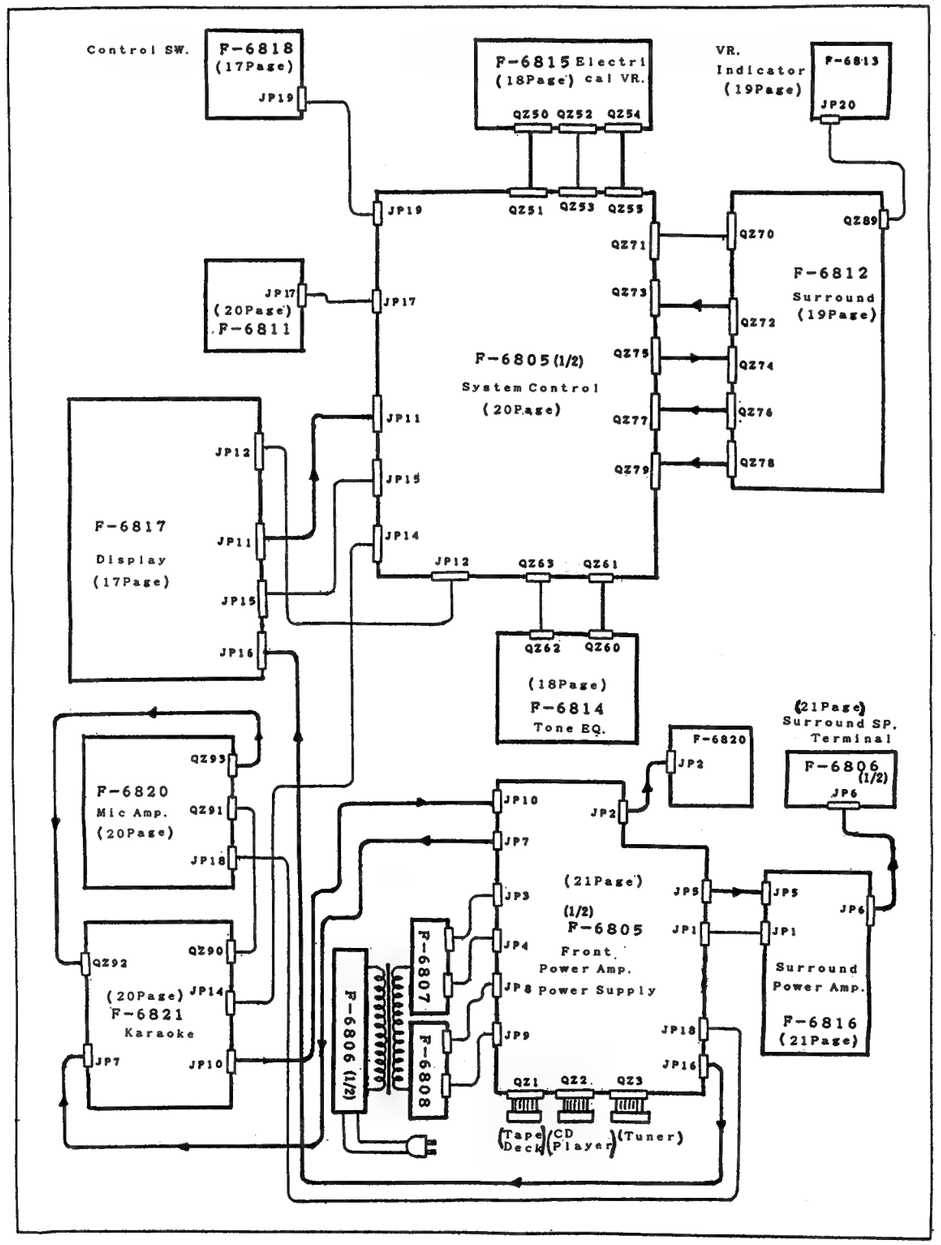
7-13. F-6821 Karaoke Board
Component Side



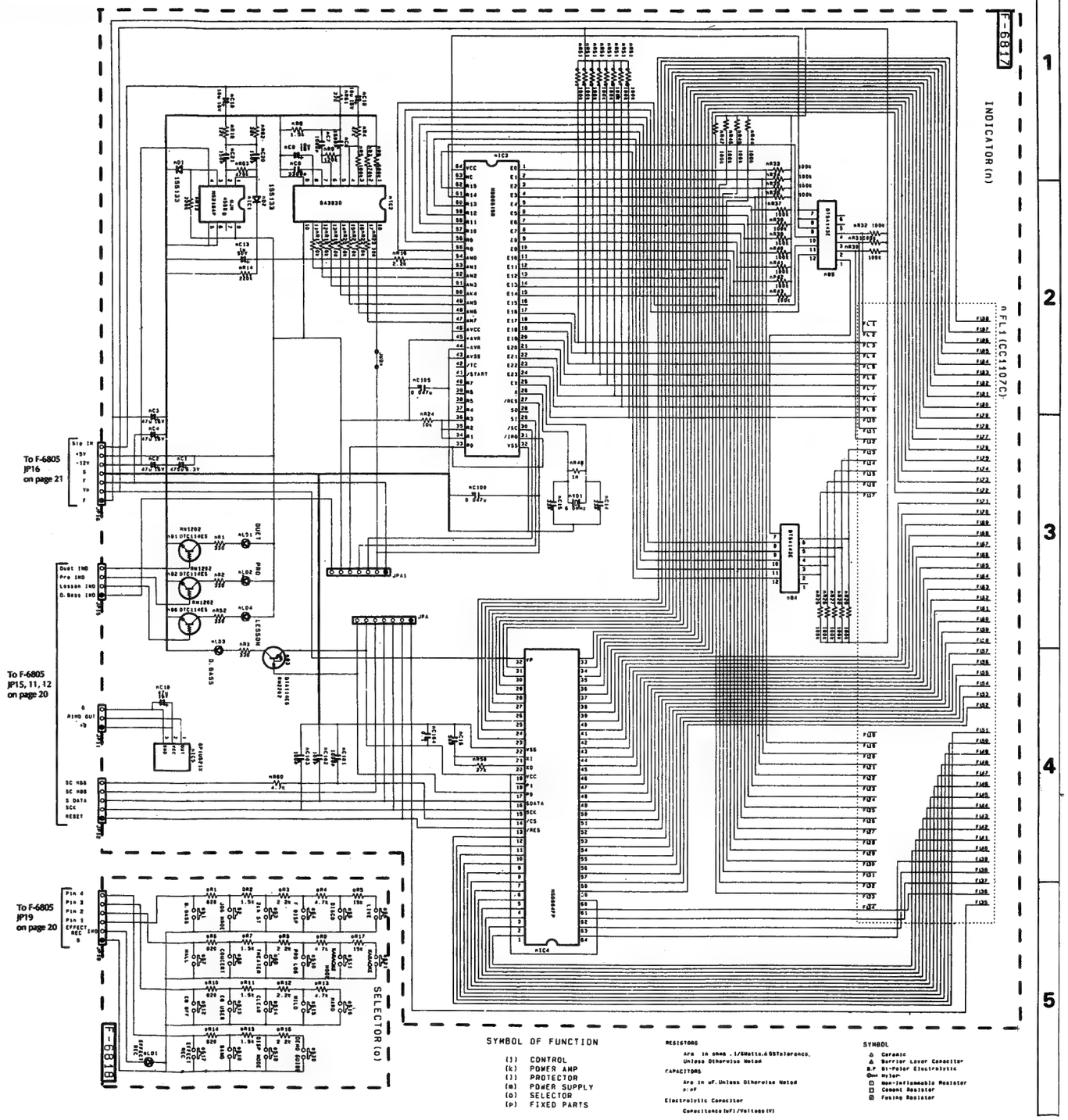
7-14. F-6818 Control Switch Board
Component Side



8. CONNECTION DIAGRAM BETWEEN BOARDS

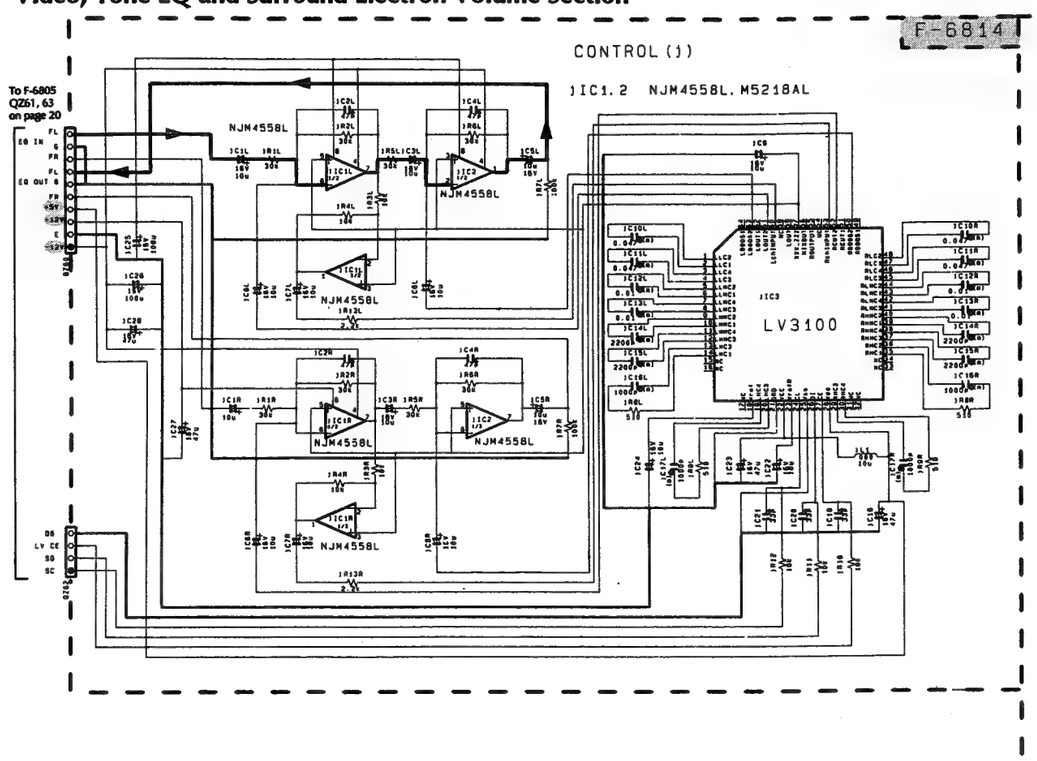


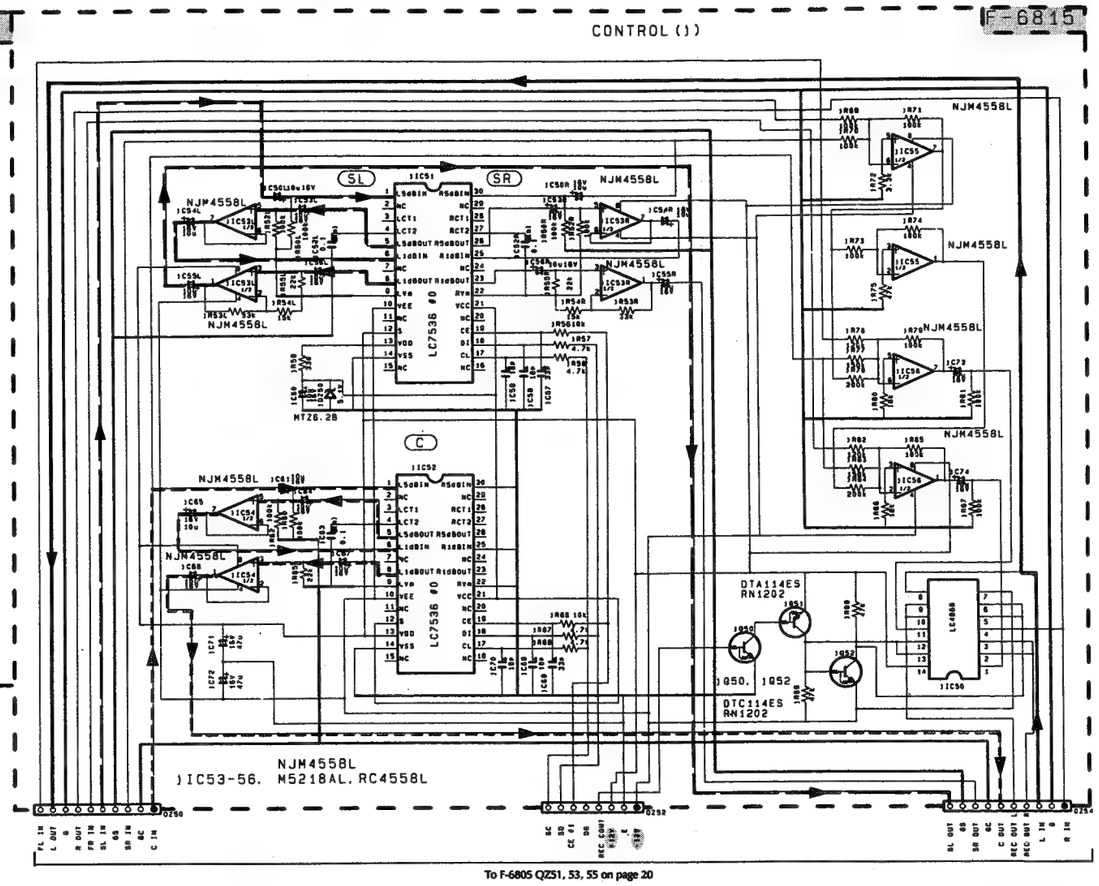
9. SCHEMATIC DIAGRAM 9-1. Display and Control Switch Section

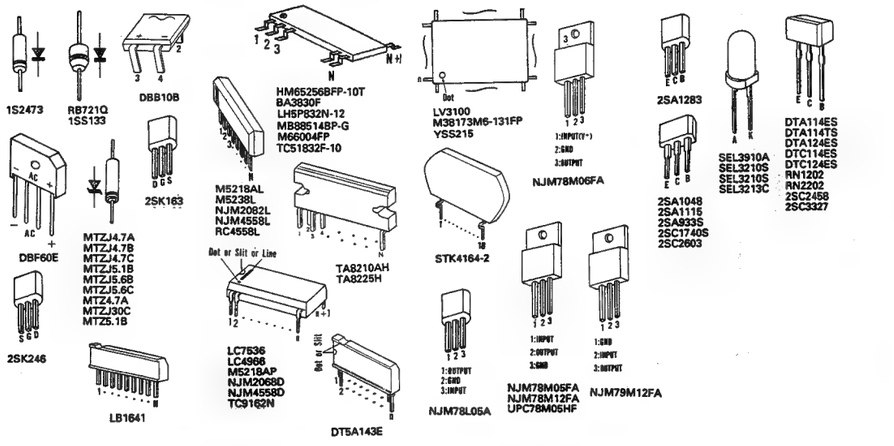


A	B	C	D	E	F	G	H

9-2. Video, Tone EQ and Surround Electron Volume Section







Front Signal Line
Rear Signal Line
Center Signal Line

SYMBOL OF FUNCTION

(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS

SYMBOL

- Ceramic
- Barrier Layer Capacitor
- B.P Bi-Polar Electrolytic
- Meter
- Non-Inflammable Resistor
- Cement Resistor
- Fusing Resistor

⚠ is Safety Part.
Use only replacement parts recommended by manufacturer.

A	B	C	D	E	F	G	H

9-3. Surround Section

* Design and specifications subject to changes without notice for improvements.

F-6813

VR LED

CONTROL (j)

F-6812

SUR (x)

LB1641

TC9162N

LC7536

TC51832-FL-10

YSS215

xIC2 LH5P832N-12
HM65256BPF-10T

xIC6 NJM78M5.6FA
xIC7-10 NJM2082L or M5238L
xIC11-20 NJM4558L or M5218AL or RC4558L
xQ1,7 2SC3327A or B
xQ2,5 DTA114ES or RN2202
xQ3,4,6 DTC114ES or RN1202
xD1-6 1SS133
xDZ1 MTZJ6.2B
)DZ201 MTZ4.7A
MTZJ4.7A

RESISTORS

Ars in ohms . 1/8Watts.±5%Tolerance
Unless Otherwise Noted k:Kilo Ohms

CAPACITORS

Ars in uF.Unless Otherwise Noted
p:pF

Electrolytic Capacitor

Capacitance(uF)/Voltage(V)

Each D.C Voltage shows the nominal value in volts at no input signal.

SURROUND REFFENCE VOLTAGE

L=350mV Lch
R=350mV Rch
C=248mV INPHASE
S=248mV OUTPHASE

SYMBOL OF FUNCTION

(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS

SYMBOL

Ceramic
Barrier Layer Capacitor
Bi-Polar Electrolytic
Mylar
Non-Inflammable Resistor
Cement Resistor
Fusible Resistor

⚠ Is Safety part.
Use only replacement parts recommended by manufacturer.

1S2473 RB721Q 1SS133 DBB10B
DBF60E 2SK163
MTZJ4.7A MTZJ4.7B MTZJ4.7C MTZJ5.1B MTZJ5.6B MTZJ5.6C MTZ4.7A MTZJ3.9C MTZ5.1B
2SK246
HM65256BFP-10T BA3830F LH5P832N-12 MB88514BP-G M66004FP TC51832F-10
M5218AL M5238L NJM2082L NJM4558L RC4558L
TA8210AH TA8225H
LC7536 LC4966 M5218AP NJM2068D NJM4558D TC9162N
DTSA143E
LV3100 M38173M6-131FP YSS215
NJM78M06FA
STK4184-2
LB1641
NJM78L05A
NJM78M06FA NJM78M12FA UPC78M05HF
NJM79M12FA
2SA1283
2SA1048 2SA1115 2SA933S 2SC1740S 2SC2803
SEL3910A SEL3210S SEL3210S SEL3213C
DTA114ES DTA114TS DTA124ES DTC114ES DTC124ES RN1202 RN2202 2SC458 2SC3327

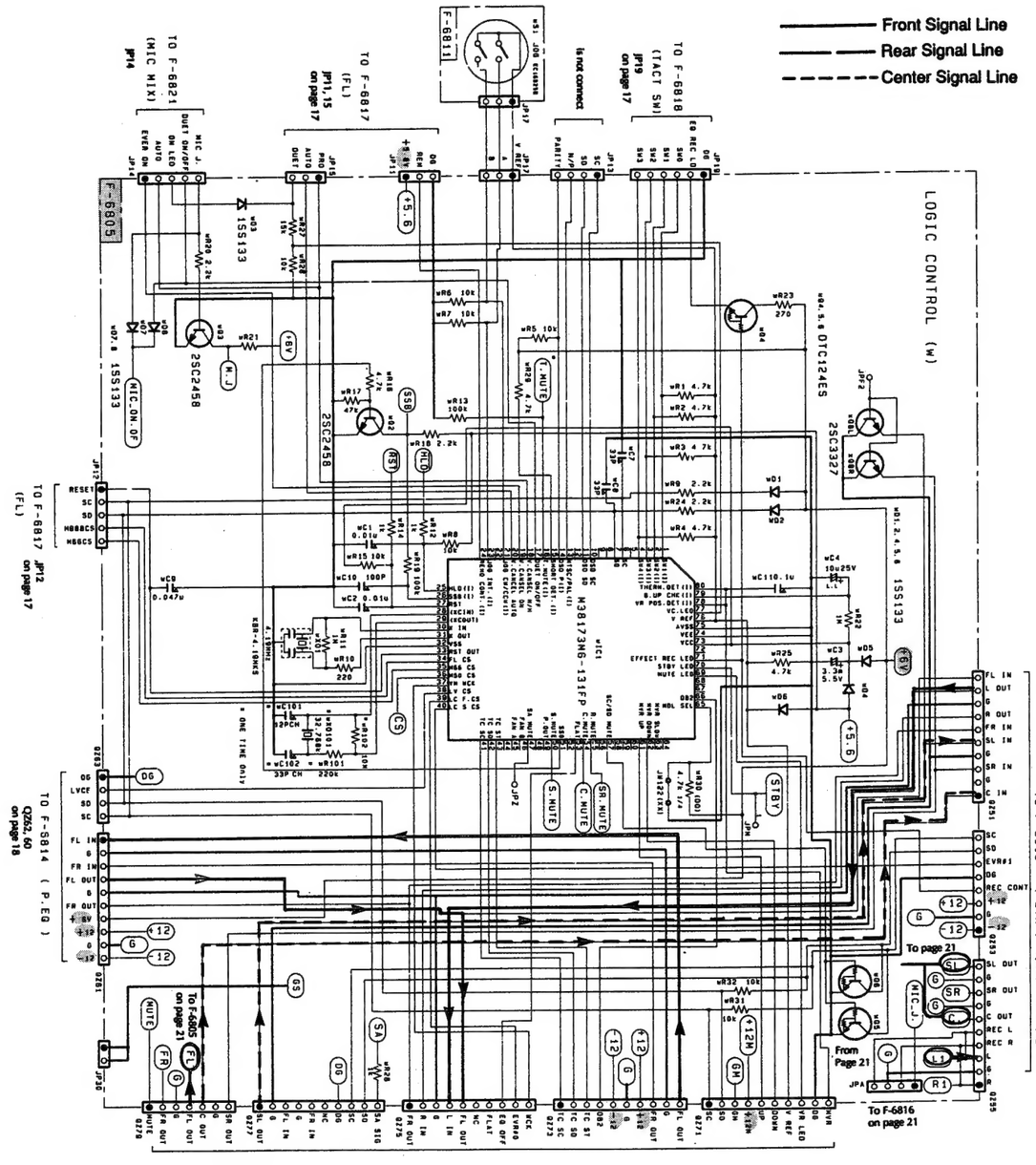
To F-6805 QZ71 on page 20

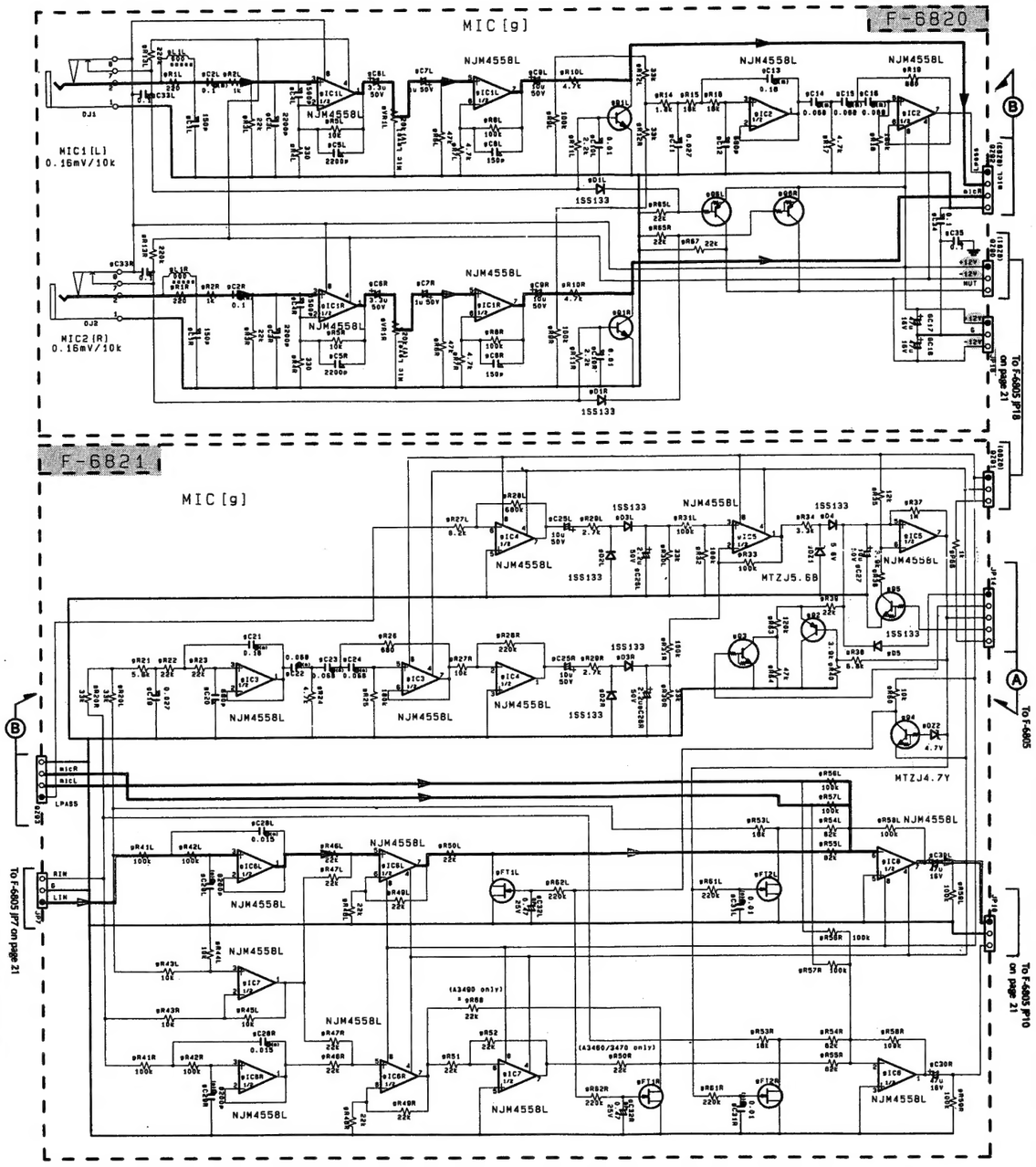
To F-6805 QZ73, 75, 77, 79 on page 20

Front Signal Line — Rear Signal Line - - - Center Signal Line

A	B	C	D	E	F	G	H

9-4. Control Microcomputor, Karaoke and Mic Amp. Section





SYMBOL
△ Ceramic
△ Barrier Layer Capacitor
B.P Bi-Polar Electrolytic
Mylar

RESISTORS
Are in ohms .1/6Watts.±5%Tolerance
Unless Otherwise Noted k:kilo Ohms

CAPACITORS
Are in uF.Unless Otherwise Noted
p: pF

Electrolytic Capacitor
Capacitance(uF)/Voltage(V)

Each D.C Voltage shows the nominal value in volts at no input signal.

gIC1-8 NJM4558L, M5218AL
gQ1 2SC2603(E, F), 2SC1740S(R, S)
gQ2 2SA1115(E, F), 2SA933S(R, S)
gQ3-5 DTC114ES, RN1202
gQ6 DTA124ES, RN2203
gFT1, 2 2SK163(K2, K1, L1, L2, M1, M2, N1, N2)
2SK246(Y, GR, BL)

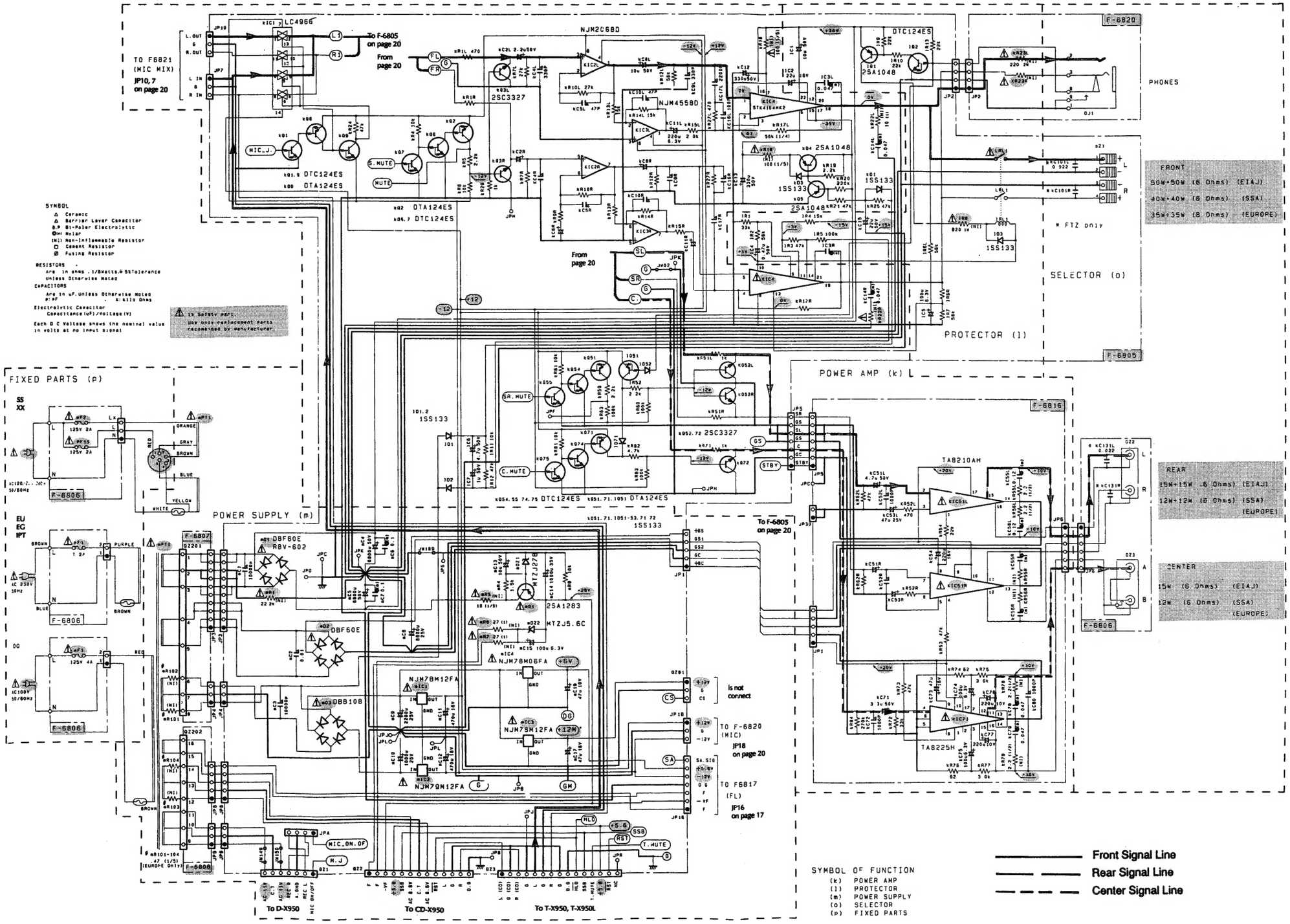
SYMBOL OF FUNCTION
(j) CONTROL
(k) POWER AMP
(l) PROTECTOR
(m) POWER SUPPLY
(o) SELECTOR
(p) FIXED PARTS
(g) MIC

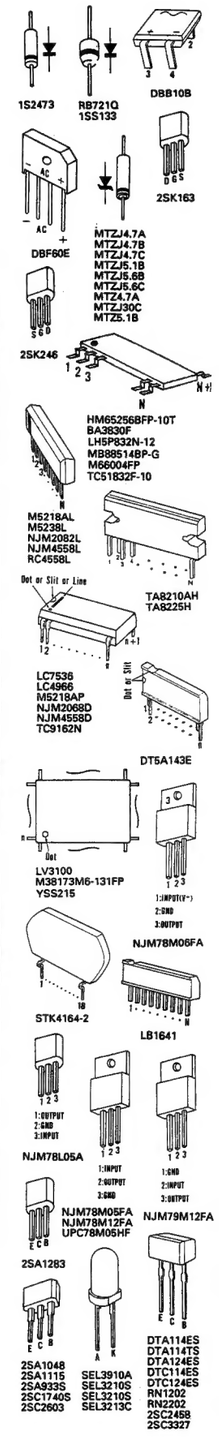
SYMBOL
△ Ceramic
△ Barrier Layer Capacitor
B.P Bi-Polar Electrolytic
Mylar
Non-Inflammable Resistor
Cement Resistor
Fusing Resistor

⚠ is Safety part.
Use only replacement parts recommended by manufacturer.

9-5. Power Amp and Power Supply Section

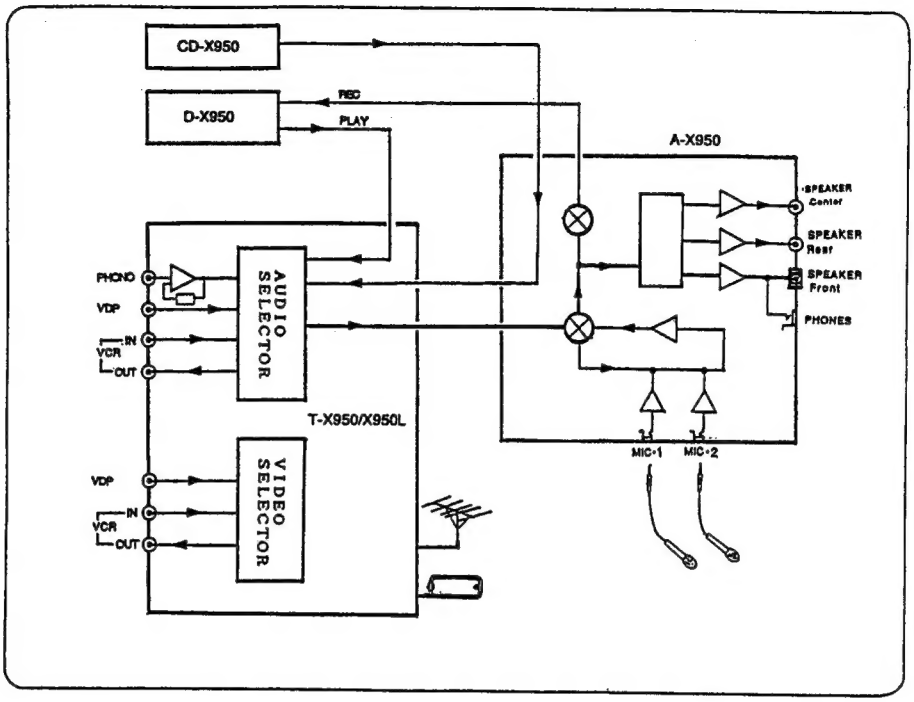
* Design and specifications subject to changes without notice for improvements.





10. SIGNAL FLOWCHART OF THE SYSTEM

- For the functional description of each pin for the control cable connected between each set, see Page 17.



11. REPLACEMENT OF MAIN PARTS

A. Front Power IC

1) Remove the bonnet.
2) Remove 2 rear-panel setting screws Ⓐ. (See the Rear View on Page 14.)
3) Remove 4 heat-sink holder setting screws Ⓑ. (See the Top View.)
4) Remove 3 screws Ⓒ for fixing the main board F-6805.
5) Remove 2 hooks ⑱ to support PC.
6) Remove the master volume knob.
7) Remove the F-6813 master volume indicator board, out of the volume shaft.
8) Remove the nut that is fixing the master volume.
9) Remove 2 pawls that fix the rear panel and the chassis, and slide the rear panel and the F-6805 board backward from the chassis. (See the Rear View.)
10) Remove 4 power-IC (TA8225H and TA8210AH) setting screws of the F6816, and remove the F-6816 board together with the IC.
11) Disconnect the soldered front power IC (STK4164-2).
12) Remove the F-6815 board upwardly.
13) Remove 2 front-power IC setting screws Ⓓ and remove the IC. (See the Top View.)

Note: ① Each the F-6806 PC board into the groove of the F-6807 board and the board clamp of the chassis, during mounting. (See Fig. 11-1.)

② Be sure to mount the F-6822 board for fixing the board.

B. Front Panel

1) Remove the bonnet.
2) Remove the master volume and the microphone level knob.
3) Remove the F-6813 volume indicator board out of the volume shaft, and remove the nut that fixes the volume.
4) Remove 2 panel-setting screws equipped in the foot Assy unit on the bottom side.
5) Remove hooks on the chassis side and the F-6820 microphone amplifier board and remove the panel out of the chassis.
6) Remove the set screws and hooks and remove the F-6817 display board and the F-6818 control switch board, out of the panel.
7) Remove the nut that fixes the switch of the F-6811 and remove the board.
8) Remove 4 stoppers of the plastic panel and separate the panel from the aluminum panel in a horizontal state. (See Fig. 11-2.)

Note: Each knob is only sandwiched between boards, so check carefully that they are corectly mounted.

Fig. 11-1

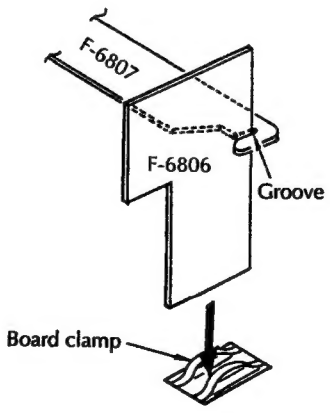
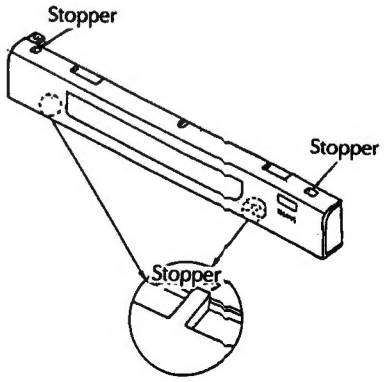
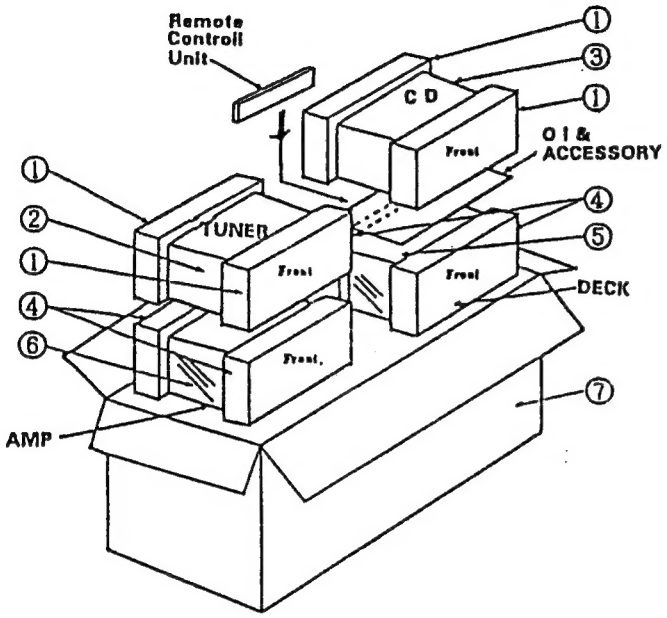


Fig. 11-2



12. PACKING & ACCESSORY LIST



Accessory List

Parts No.	Stock No.	Description
	49746500	Remote Controller,RS-G6
	49631200	AM Loop Antenna
	07563000	Antenna Holder
	46051700	FM Antenna
	49335000	Antenna Matching Transformer (MC-X950L)
	————	Dry Battery,SUM-3
	19079000	Operating Instruction (MC-X950)
	19082000	Operating Instruction (MC-X950L)

Packing List

Parts No.	Stock No.	Description
1	05098410	Styrofoam Packing,Pair (Tuner／CD)
2	27867300	Vinyl Bag(Tuner)
3	27867400	Vinyl Bag(CD)
4	05095900	Styrofoam Packing,Pair (Deck,AMP)
5	27594000	Vinyl Bag(Deck)
6	27343800	Vinyl Bag(AMP)
7	05128000	Carton Case(MC-X950 Black)
	05156900	Carton Case(MC-X950 Gold)
	05157500	Carton Case(MC-X950L Black)
	05157700	Carton Case(MC-X950L Gold)

SANSUI

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17150 South Margay Ave. Carson, California 90746 U.S.A.
SANSUI DEUTSCHLAND G.M.B.H.: Paul-Ehrlich-Strasse 8, 6074 Rödermark 2, F. R. Germany
山水電気株式会社 東京都杉並区和泉2-14-1 (〒168)

(SM2-318) (1992.03.C) <Stock No. 36566200>